

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

**ITEM 16  
ATTACHMENT 15**

**COMMENT LETTERS SUBMITTED DURING THE  
EXTENDED COMMENT PERIOD**

**CHOLLAS CREEK DIAZINON TOTAL MAXIMUM DAILY LOAD**

**AUGUST 14, 2002**

Letter 1 – City of San Diego

Item 16, Attachment 15

June 26, 2002

HAND DELIVERY

Mr. John Robertus, Executive Director  
San Diego Regional Water Quality Control Board  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123

Dear Mr. Robertus:

Subject: Late Agenda Packet of June 10, 2002 and Errata Sheet of June 12, 2002  
for the Proposed Amendment to the Water Quality Control Plan for the  
San Diego Region (Basin Plan) to Incorporate a Total Maximum Daily  
Load (TMDL) for Diazinon in the Chollas Creek Watershed  
*Proposed Resolution No. R9-2002-0123*

We greatly appreciate this opportunity to review and comment on the revisions made by the Regional Board staff related to the proposed Basin Plan Amendment just prior to the Regional Board hearing on June 12, 2002. Unfortunately, we were unable to review and evaluate the significance of many of the changes prior to the Board hearing. We have embraced this opportunity to complete our review and to discuss Chollas Creek Diazinon issues with the other stakeholders in addition to your staff. It is our desire to ensure that there is understanding between all parties such that expectations are met with the implementation of this TMDL.

On June 20, 2002, stakeholders for the Chollas Creek Diazinon TMDL met to collaborate on comments to the Regional Board regarding the Late Agenda Packet and Errata Sheet. This group included the jurisdictions within the watershed, San Diego Baykeeper, Sierra Club, and Deborah Jayne and Jimmy Smith of your staff. During this meeting, we discussed the extended opportunity for public comments, how to coordinate a joint submission, and concerns regarding changes in these documents. It became apparent during the meeting that a better understanding of each other's comments was necessary before concerns could be addressed and mutual needs could be met. For example, a change to Attachment F - Best Management Practices was in response to a comment received by the Environmental Health Coalition (EHC). Revised language for Attachment F was developed and agreed upon only after referring back to the original EHC comment.

This letter represents the concerns expressed by the City of San Diego and the resolution of those concerns as discussed at the meeting. The proposed document changes are described in detail (and delineated in bold italics) to allow them to be easily incorporated into the final recommendations to your Board.

Attachment F - Best Management Practices

Rename Attachment F to "Best Management Practices ***Inventory***" to reflect its purpose. Our discussion clarified that the list is intended to be used as a resource to municipalities and will not be used by the Regional Board as a checklist to determine TMDL activity compliance. It is understood that all items on the list would not be included in the Diazinon Toxicity Control Plan required by the TMDL. For example, the City of San Diego does not intend to include "how to

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make money without applying pesticides” in its outreach materials which was added to Attachment F. This is the role of the State agency that does the pesticide application licensing. Also, be advised that we do not currently have the resources to buy back pesticides from residents and businesses. However, we are willing to work with the State and other stakeholders to obtain grant funding for this activity.

#### Errata Sheet item (Page 3, Item 14)

Revise existing text from the *Community, Education, Outreach and Training Program* (Attachment 12, Page F-1, paragraph 1) by adding the italic and bolded words:

The storm water management education, outreach and training program should develop best management practices which get the Integrated Pest Management (IPM) message out to the target audience – the people who buy and use pesticides. The focus of the educational outreach should be providing information about pesticide related toxicity, and how to protect water quality and the environment. The IPM framework to be prioritized in the following order: (1) Prevention of indoor and outdoor pests; (2) Use of nontoxic and less toxic alternatives; and (3) Minimize hazards ***to the environment associated with the application*** of pest control products used. Also the education program should disburse educational materials to the community so as to prevent the improper disposal of all pesticides, including diazinon. Steps should be taken to provide the community with information on how to dispose of pesticides legally (e.g. a ***hazardous waste collection center.***)

#### Errata Sheet item (Page 4, Item 16)

The survey instrument referred to in this item is no longer used by the City of San Diego. It was replaced by the City of San Diego’s Storm Water Pollution Prevention Program’s Annual Survey of Residential Behaviors. The survey was initiated for the City’s Urban Runoff Management Plan purposes and to help measure gains in complying with the Regional Municipal Storm Water permit. The City’s improved survey was initially conducted in July 2001 and includes questions about the use of pesticides, herbicides or fungicides, the frequency of use, and how leftover quantities are disposed of. In addition, the annual residential survey can extrapolate data specifically gathered from residents in the Chollas Creek Watershed. The City of San Diego intends to work with the Cities of Lemon Grove and La Mesa to gather pesticide use data for the Chollas Creek watershed in the future.

#### Monitoring Plan Requirements

It is important to note that Chollas Creek is already being extensively monitored for Diazinon as part of several other programs, as follows:

1. San Diego Municipal Storm Water Program’s Regional Monitoring Program (refer to Attachment 1). Last year, the Municipal Storm Water Program created the Final Report: San Diego Region Previous Storm Water Monitoring and Future Recommendations, dated August 2001. This document provided the first year of a five-year strategy entitled City and County of San Diego Co-Permittee Receiving Water Monitoring Program 2001-2002. The second year of monitoring is being prepared at this time and will be submitted to the Regional Board by August 2002.
2. City of San Diego’s Dry Weather Monitoring Program (refer to Attachment 2).
3. San Diego BayKeeper’s Citizen Monitoring Program (refer to Attachment 3).

These programs will continue in the upcoming years and provide useful information relative to the Diazinon TMDL monitoring objective, *to measure and document the reduction of diazinon concentrations in storm runoff in the watershed through time as diazinon is phased-out and BMPs are implemented.*

In order to better coordinate these programs, we will be developing a complete matrix of all the monitoring locations over the next three months and will forward it to you when completed. The City of San Diego already developed a monitoring plan for the diazinon TMDL (refer to Attachment 4) that meets the above objective. Your staff has indicated the proposal fits within the requirements stipulated in the Technical Report and would be considered for approval in the future.

Monitoring Requirements - Revised text in the Technical Report (Pages 44-45, Section 11.30)

Monitoring is a very important element of the proposed TMDL. The monitoring requirements included in the Technical Report were unclear to the City of San Diego at the time of the Board hearing because of the late changes, particularly a new paragraph added in Section 11.30. We now understand that the information contained in this new paragraph was merely relocated from another section in the document.

Monitoring Plan Requirements - Revised text in the Technical Report (Pages 45-47, Sections 11.31, 11.32, 11.33)

Another area of confusion related to the sections that were modified to use the word “should”, replacing the words “shall” and “at a minimum” relative to the location of monitoring sites. Our discussion indicated that your staff and the environmental groups had a similar interpretation of “should” but the municipalities did not know how to interpret this change. Although the municipalities agree that “should” is not as restrictive as “shall” the interpretation is the same from a scope of work standpoint (i.e. Regional Board staff will only approve a monitoring plan with the eight locations identified in Table 11-1).

If it is your intent to increase flexibility, as stated in the Summary of Major Changes (Item 3 Clarification of Monitoring Program, first bullet), the word “may” is the appropriate word to use. It is also important to point out that the eight monitoring locations listed came from a source identification study done for the California Department of Pesticide Regulation (DPR). As the objective of the DPR study differs from the Diazinon TMDL monitoring, it is likely that the monitoring locations would also differ. Accordingly, we request that the Technical Report be modified as follows:

The monitoring program **may** include sampling at stations identified in Table 11-1 during (3) storm events. (Section 11.31 *Sample Collection*)

The monitoring program **may** include the eight stations identified in Table 11-1, below. (Section 11.32 *Location of Monitoring Stations*)

The monitoring program *may* include diazinon testing of ambient water in Chollas Creek during each of the three (3) storm events at the eight (8) stations identified in Table 11-1. (Section 11.33 *Diazinon Test Method*)

The monitoring proposal presented and discussed during our stakeholder meeting did not include all eight locations but met the objective of the required monitoring. Deborah Jayne explained that this monitoring plan proposal would be reviewed sometime in the future to determine if it is “equivalent to the goal”. It would be preferable to have assurances at this time of what would be expected.

The City of San Diego also requests that the annual reporting requirements in the Technical Report, Section 11.40 be modified so that wet weather periods are not split and to be consistent with reporting requirements contained in the Municipal Storm Water Permit. It is recommended that the following text be incorporated under the Annual Reports heading:

***The annual reporting or monitoring period shall be August 21 – August 20 of each year. Reports shall be submitted to the Regional Board on the following January 31 of each year.***

Again, we greatly appreciate this opportunity to provide these comments. The City of San Diego is committed to protecting the water quality of our beaches, bays, and watersheds. We intend to continue meeting with stakeholders in the future to discuss our implementation strategies. If you have any questions or require more information, please don’t hesitate to contact me at (619) 525-8647 or Storm Water Specialist Ruth Kolb at (619) 525-8636.

Sincerely,

Karen Henry  
Deputy Director

KH\rk

Attachments:

1. City and County of San Diego Co-Permittee Receiving Water Monitoring Program 2001-2002, In Compliance with Order 2001-01
2. City of San Diego’s Storm Water Pollution Prevention Program Dry Weather Analytical and Field Screening Monitoring Specifications for the Chollas Creek Watershed
3. Chollas Creek and Paleta Creek – 7<sup>th</sup> Street Channel Citizen Monitoring Program
4. Chollas Creek Diazinon TMDL Proposed Alternative Monitoring Plan, Revised June 24, 2002

cc: Ernie Anderson, General Services Director  
Deborah Jayne, Regional Water Quality Control Board  
Ed Wimmer, City of Lemon Grove  
Driss Elwardi, City of La Mesa

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Sheri McPherson, County of San Diego

Richard Gilb, Port of San Diego

Bruce Reznik, San Diego BayKeeper

Ed Kimura, Sierra Club

**City and County of San Diego Co-Permittee  
Receiving Water Monitoring Program 2001-2002  
IN COMPLIANCE WITH ORDER NO. 2001-01**

**PURPOSE AND OBJECTIVES**

The purpose of this document is to provide a comprehensive description of activities that will be completed in the 2001-2002 monitoring year for the County of San Diego and Co-Permittee NPDES Storm Water Monitoring Program in compliance with Order 2001-01. The specific objectives of the monitoring program are:

Develop and implement a monitoring and reporting program that allows determination of annual and long-term trends of ecological health in receiving waters of the county based upon chemical, physical, and biological evidence. This program is designed to facilitate transition to watershed-based monitoring.

Provide mechanisms for predicting short- and long-term impacts to receiving waters that result from changes in land-use within each watershed, and provide data that can be analyzed to develop pollutant reduction strategies that reduce those impacts.

Relevant sub-objectives include:

Develop and implement a phased and scientifically based program that provides mechanisms for identifying potential problems.

Develop and implement an adaptive approach that provides data necessary to answer specific questions, or that can eliminate unwarranted redundancy.

Develop and implement a program that measures the effectiveness of Urban Runoff Management Plans and other potential pollutant reduction strategies.

Develop and implement a program that integrates with other regional programs involved in assessing the overall health of receiving water in San Diego County and Southern California.

Develop and implement a program that assesses compliance with RWQCB order No. 2001-01.

### **OUTLINE OF ACTIVITIES**

The Co-permittees activities in the 2001-2002 monitoring year include the following broad activities. Details of each activity are provided in the following pages.

1. Chemical and toxicity testing of storm water runoff from 12 Mass Loading Stations (MLS) located within major watersheds of the County of San Diego
2. Rapid stream bioassessments at 23 stations in Fall 2001, and Spring 2002
3. Development of an ambient bay and lagoon monitoring program using information from planned projects in San Diego County under other programs at two stream mouths
4. Toxic Hot Spot Monitoring
5. Annual Report of Monitoring and Program recommendations - A report of all findings from the 2001-2002 monitoring
6. Coastal Outfall Monitoring

### ***Water Quality Monitoring at the Mass Loading Stations (MLS)***

Twelve MLS will be monitored during the wet weather season over three (3) storm events. Water quality sampling will be conducted during the first viable rainstorm of the monitoring season and during at least one storm after February 1. A viable storm event is considered a minimum of 0.1 inch of rainfall. Each storm of at least 0.1 inch of rainfall must be separated by a minimum of 72 hours of rainfall, and the forecasted storm volume must be within  $\pm 50\%$  of the average storm volume and duration for the region.

The 12 MLS are located within the following streams:

Santa Margarita River  
San Luis Rey River  
Agua Hedionda Creek  
Escondido Creek  
San Dieguito River  
Peñasquitos Creek  
Tecolote Creek  
San Diego River  
Chollas Creek  
Sweetwater River  
Otay River



Tijuana River.

Summaries of locations of MLS are provided in Figures 1 – 12. Monitoring stations are co-located with United States Geological Survey (USGS) flow measuring stations when possible. Field crews will measure the flow rate of streams at stations that are not rated using USGS stream profiling guidelines prior to the beginning of the storm season, and periodically throughout the storm season. This will be accomplished by manual rating techniques using a hand held flow meter and also by using the advanced technology of an Acoustic Doppler Current Profiler (ADCP). The resulting discharge rate will be used to calculate a discharge equation which will be utilized by the flow monitoring equipment.

Flow rates will be monitored using an American Sigma flow meter with an ultrasonic sensor as the primary measuring device. A submerged pressure transducer may also be installed as a backup measuring device. The ultrasonic sensor will continuously measure stage (stream height) and relay that information to the flow meter. The flow meter will continually calculate flow rates by inserting the stage information into the preprogrammed discharge equation. Using this system the flow meter will be able to actuate the American Sigma 900 series sampler to achieve a flow weighted composite sample. Sampling and flow equipment will be monitored remotely and all data will be transferred back to the main storm computer at MEC Analytical Laboratories, Inc. via land-line telephone.

All sampling and analyses conducted for MLS will be in accordance with applicable USEPA regulation and guidance as summarized in Table 1. One flow-weighted composite will be collected by autosampler and field personnel will collect one grab sample.

The flow-weighted composite will be analyzed for the following parameters:

*Inorganic chemicals* – Ammonia, BOD, COD, total and dissolved phosphorus, nitrate, nitrite, total hardness, TKN, TDS, TSS, Turbidity, MBAS

*Metals* (Total Metals and Dissolved Metals) – Antimony, Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Selenium, Zinc

*Organophosphate pesticides* – Diazinon, Chlorpyrifos

*Toxicity Testing* – Conduct toxicity testing at each station using *Ceriodaphnia dubia*, *Selenastrum capricornutum*, and *Hyallela azteca*.

The grab sample will be analyzed for the following parameters:

The *insitu* measurements (those conducted in the field) shall be performed on grab samples - temperature, pH, and conductance

Laboratory measurements shall be conducted on grab samples for oil and grease, total coliform, fecal coliform and fecal *Enterococcus*.

**Table 1. Analytical requirements for Mass Loading Stations.**

Constituent	Volume Required	Method	Reporting Limit	Units	Max Holding Time
<b>General Physical and Inorganic Non-Metals</b>					
Total Dissolved Solids (TDS)	100 ml	SM 2540C	20	mg/l	7D
Total Suspended Solids (TSS)	100 ml	SM2540D	20	mg/l	7D
Turbidity	100 ml	SM 2130A-B	0.1	NTU	48H
Total Hardness	150 ml	SM 2340B	10	mg/l	6M
pH	In field	EPA 150.1	0.1	S.U.	
Specific Conductance	In field	SM 2510B	1	umhos/cm	
Temperature	In field				
Dissolved Phosphorus	250 ml	SM 4500PE	0.05	mg/l	48H
Total Phosphorus	250 ml	SM 4500PE	0.05	mg/l	28D
Nitrate and Nitrite	200 ml	SM4500NO2-NO3	0.1/0.05	mg/l	48H
Total Kjeldahl Nitrogen (TKN)	500 ml	SM4500C	0.1	mg/l	28D
Ammonia	250 ml	SM 4500NH3D	0.1	mg/l	28D
Biological Oxygen Demand, 5-day (BOD)	1000 ml	SM5210B	2	mg/l	48H
Chemical Oxygen Demand (COD)	25 ml	EPA 410.4	25	mg/l	28D
<b>Organics</b>					
Oil and Grease (O&G)	500 ml	EPA 413.1	1	mg/l	14D
Diazinon	1 liter	EPA 8141A	0.05	ug/l	14D
Chlorpyrifos	1 liter	EPA 8141A	0.05	ug/l	14D
Methylene Blue Active Substances (MBAS)	250 ml	SM 5540C	1	mg/l	48H
<b>Metals, Dissolved</b>					
Antimony (Sb)	75 ml	EPA 200.8	0.002	mg/l	6M
Arsenic (As)	75 ml	EPA 200.8	0.001	mg/l	6M
Cadmium (Cd)	75 ml	EPA 200.8	0.001	mg/l	6M
Chromium (Cr)	75 ml	EPA 200.8	0.005	mg/l	6M
Copper (Cu)	75 ml	EPA 200.8	0.005	mg/l	6M
Lead (Pb)	75 ml	EPA 200.8	0.002	mg/l	6M
Nickel (Ni)	75 ml	EPA 200.8	0.002	mg/l	6M
Selenium (Se)	75 ml	EPA 200.8	0.002	mg/l	6M
Zinc (Zn)	75 ml	EPA 200.8	0.02	mg/l	6M
<b>Metals, Total</b>					
Antimony (Sb)	75, ml	EPA 200.8	0.002	mg/l	6M
Arsenic (As)	75, ml	EPA 200.8	0.001	mg/l	6M
Cadmium (Cd)	75, ml	EPA 200.8	0.001	mg/l	6M
Chromium (Cr)	75, ml	EPA 200.8	0.005	mg/l	6M
Copper (Cu)	75, ml	EPA 200.8	0.005	mg/l	6M
Lead (Pb)	75, ml	EPA 200.8	0.002	mg/l	6M
Nickel (Ni)	75, ml	EPA 200.8	0.002	mg/l	6M
Selenium (Se)	75 ml	EPA 200.8	0.002	mg/l	6M
Zinc (Zn)	75, ml	EPA 200.8	0.02	mg/l	6M
<b>Bacteriological</b>					

Total Coliform	200 lm	SM 9221B	*	MPN/100 ml	6H
Fecal Coliform	200 ml	SM9221E	*	MPN/100 ml	6H
Fecal Enterococcus	200 ml	SM 9230	*	MPN/100 ml	6H
<u>Toxicity</u>	20 Liters				
7-day chronic test with the cladoceran <i>Ceriodaphnia dubia</i>					
Chronic test with the freshwater algae <i>Selenastrum capricornutum</i>					
Acute survival test with the amphipod <i>Hyallela azteca</i> .					

\* To 6 dilutions – need a value...not a greater than number

### ***Ambient Bay, Lagoon, and Coastal Receiving Water Monitoring***

The objective of 2001-2002 ambient bay, lagoon, and coastal receiving water monitoring program is to design a scientifically valid and cost-effective program that can be implemented in the 2002-2003 monitoring year. The 2002-2003 program will address ambient monitoring of Oceanside Harbor, the Pacific Ocean Shoreline, and Clean Water Act section 303(d) waterbodies and environmentally sensitive areas, as required in Attachment B, Section II.D of Order No. 2001-01.

The 2001-2002 effort will focus on reviewing results from studies in lagoons and bays in San Diego County and other similar outfalls in Southern California. This review will provide information regarding potential storm water impacts and monitoring methods that can be utilized to develop effective monitoring programs for the Co-permittee Storm Water Program for future years. Specific programs that may be investigated, depending on the availability of documents and data, include:

Chollas Creek at San Diego Bay  
Escondido Creek at San Elijo Lagoon  
Newport Bay  
Ballona Lagoon.

These four programs will be reviewed as part of the 2001/2002 monitoring program to glean the following:

- Identify potential problem areas and questions associated with storm water discharge in ambient bays, lagoons, and coastal receiving waters
- Develop and identify program objectives
- Assess program monitoring techniques and methodologies
- Identify important monitoring parameters for sediment and water plumes
- Develop an efficient, yet comprehensive, plan and sampling design for Oceanside Harbor, the Pacific Ocean Shoreline, and Clean Water Act section 303(d) waterbodies

and environmentally sensitive areas, as required in Attachment B, Section II.D of Order No. 2001-01.

### **Rapid Stream Bioassessment Monitoring (RSB)**

Rapid Stream Bioassessment (RSB) monitoring will be conducted pursuant to California Department of Fish and Game (CDF&G) Rapid Stream Bioassessment Monitoring Procedures to provide a measure of stream health.

The following procedures will be utilized for Site Sampling and Analysis:

- Sample and analyze substrate samples for benthic infauna, from each of 20 bioassessment monitoring stations and three reference stations. These stations were established in 2001 and are shown on Figure 13. Station locations may change between sampling events depending on the physical conditions of the site (e.g. wet versus dry). Field measurements of pH, temperature, DO, conductivity, flow rate, percent gradient, sampling area physiography, and overall assessment of physical habitat (e.g., vegetative cover, bank stability) will be obtained at each station. Two surveys will be taken. The first will occur in October, 2001 prior to rainy season. The second will occur in May or June after the 2001-2002 rainy season. Sampling dates will be coordinated with CDF&G and RWQCB.
- Samples will be analyzed in the MEC Analytical Systems, Inc. taxonomy laboratory pursuant to the CDF&G procedure.
- A 10% quality assurance check will be performed on taxonomic identification by the CDF&G laboratory.
- Sample data from all RSB monitoring stations on the receiving waters of the Co-permittees will be analyzed. Multivariate assemblage analyses will be conducted to analyze simultaneously all the populations of benthic invertebrates to provide a relative assessment of ecological health.

### **Toxic Hot Spot Monitoring**

The Co-permittees are participating in the following monitoring activities that provide information relative to the Toxic Hot Spots in San Diego Bay in the 2001-2002 Monitoring Year.

Chollas Creek Watershed Study - The City of San Diego in conjunction with the Port of San Diego, the San Diego Regional Water Quality Control Board, and the California Department of Pesticide Regulation are conducting the final monitoring study in Chollas Creek related to the TMDL. To date the watershed study has

consisted of four wet weather surveys and one dry weather survey. In 2001-2002, one additional wet weather survey will be conducted for metals, organophosphate pesticides and toxicity. Statistical evaluations of the data will be conducted in an attempt to link toxicity to chemistry. These results will be used to evaluate the preliminary results of a study performed by the Southern California Coastal Water Research Project (SCCWRP). That study characterized the storm water in Chollas Creek in 1998-1999 using a Toxicity Identification Evaluation Procedure (TIE).

The SCCWRP study found evidence of a potential link between organophosphate pesticides and storm water toxicity to freshwater organisms. The study recommended additional monitoring within the watershed during various storms to further characterize the relationship.

In 2001-2002, the first storm of the season will be monitored at 9 locations in the Chollas Creek watershed for metals (copper, lead, and zinc), diazinon and chlorpyrifos, general chemistry constituents and toxicity tests. These are the same parameters previously monitored. The data will be compiled with the historical data from these stations and statistical correlation to toxicity results will be evaluated, as will any relationships between stations and storm events. The results of this monitoring is relevant to the toxic hot spot program as the runoff from this watershed drains directly to the San Diego Bay designated Toxic Hot Spot at the mouth of Chollas Creek. The final report for this project will be provided to the Toxic Hot Spot working group.

Switzer Creek Dredging Program – The Port of San Diego will be dredging between 15,000 to 20,000 cubic yards of sediment from an area adjacent to the mouth of Switzer Creek. The Port has collected sediment for chemical and toxicity evaluation as a part of the dredging program and will make the results of sediment testing available to the co-permittees and the Toxic Hot Spot Work Group for the 2000-2001 monitoring year.

Future Co-permittee monitoring efforts related to toxic hot spots in San Diego Bay will be determined in conjunction with activities conducted by the Toxic Hot Spot Work Group. In 1999, the U.S. Navy, the San Diego Unified Port District, and the City formed a partnership, the Toxic Hot Spot Work Group. This group and the San Diego Regional Water Quality Control Board and SCCWRP have been collaborating on a Toxic Hot Spot assessment program in San Diego Bay. This group has designed a monitoring study that is currently in process to assess the Toxic Hot Spots in the bay. For program consistency and to avoid duplicative efforts, the monitoring required by the Municipal Storm Water Permit will be conducted within the context, and include the active involvement, of this work group. The Toxic Hot Spot Work Group will design the next phase of studies of the Toxic Hot Spots based upon the results of the current study in process.

### ***Annual Watershed Monitoring Reporting***

The results of MLS Monitoring, Ambient Bay, Lagoon, and Coastal Receiving Water Monitoring will be provided in the Annual Storm Water Monitoring Report. This report will include data and results summaries, explanations and discussions of data. Data comparisons, recommendations for future monitoring, comparison of current storm water monitoring results to previous years monitoring results, and identification of trends will be included in the report. This report will build upon the database developed in the 2000-2001 season for long-term trend analysis and provide:

- Information relative to each hydrologic unit as measured by a “weight of evidence approach” in evaluating storm water effects. This includes creek health as measured by biological community diversity (bioassessment monitoring), as well as storm water quality as measured at the mass loading station for chemical, physical and bacteriological contaminant levels (chemistry and microbiology tests) and toxic effects to organisms (toxicity testing).
- The framework for the development of long-term trend information that includes each hydrologic unit in the County. This framework will provide a mechanism for comparing storm water quality between hydrologic units, and a baseline data set from which to monitor effectiveness of pollution reduction strategies.
- Identification of potential problem areas based upon exceedances of water quality objectives, toxic effects, or community degradation in hydrologic units.
- Identification of areas that may require TIEs based on analysis of chemical and toxicity data at MLS as required in Order No. 2001-01 Attachment B, section II.B, and rapid stream bioassessment monitoring stations as required by Order No. 2001-01 Attachment B section II.A.2.

Areas requiring TIEs per Order No. 2001-01 Attachment B, section II.B and section II.A.2 will be identified by integrating the triad of data collected in the program including toxicity and water chemistry from MLS, and benthic community structure analyses from rapid stream bioassessment surveys. The Co-permittees will develop procedures and criteria for evaluating the triad of data using tabular decision matrices that are similar to those shown in Tables 2 through 4 (modified from Peter Chapman, 1996. Presentation and Interpretation of Sediment Quality Triad Data, *Ecotoxicology* 5, 327-339). These data will be evaluated on an annual basis at a minimum. The final procedures and criteria used for these evaluations will be submitted to the RWQCB by April 15, 2002.

Table 2 summarizes the decision-making process for the case where a particular location may only have RSB/benthic assemblage data. Additional chemistry and toxicity data are needed if the benthic assemblage at a site is degraded relative to other RBS stations and there is no apparent physical degradation of the stream. Table 3 considers the case where chemical and toxicity data are

available without site specific RSB data. Table 4 considers the case where the triad of data is available. The primary decision of when to perform a TIE from a set of data is based on demonstrating a persistent occurrence of stream, or receiving water degradation.

Statistical cluster analyses will be utilized on MLS chemistry and RSB data to identify locations that have chemical and/or benthic assemblage characteristics that consistently lie outside of a normal pattern compared to other stations in San Diego County. RSB clusters that included RSB reference stations will be considered non-degraded. Toxicity test results will receive either passing or failing scores on each test per Whole Effluent Testing (WET) Guidance Manuals. Persistent toxicity is evidenced by toxicity among similar test organisms over several test (storm) events.



**Table 2. Tabular Decision Matrix Benthic Assemblage Data Only.**

<b>Chemistry</b>	<b>Toxicity</b>	<b>Benthic Alteration</b>	<b>Possible Conclusion(s)</b>	<b>Possible Actions or Decisions</b>
Not Available	Not Available	Yes	Inconclusive evidence for alteration as a result of toxic contamination	<ul style="list-style-type: none"> <li>• Insure that benthic alteration is not due to physical factors</li> <li>• Collect site specific water and sediment to evaluate chemistry and toxicity. Move to Table 3 for triad evaluation.</li> </ul>

**Table 3. Tabular Decision Matrix Chemical and Toxicity Data Only.**

<b>Chemistry</b>	<b>Toxicity</b>	<b>Benthic Alteration</b>	<b>Possible Conclusion(s)</b>	<b>Possible Actions or Decisions</b>
Yes	Yes	Not Available	Toxic contaminants are bioavailable, but in situ effects are not demonstrated	<ul style="list-style-type: none"> <li>• Collect benthic data that correlates with MLS station data*. Move to Table 3 for triad evaluation</li> <li>• Perform TIE if chemical and toxicity data demonstrate persistent degradation</li> </ul>
No	Yes	Not available	Unmeasured toxic contaminants are causing contamination	<ul style="list-style-type: none"> <li>• Collect benthic data at a station that is as close as possible to the MLS station</li> <li>• If benthic data suggest a degraded assemblage, perform advanced chemical testing of waters to identify potential contaminants of concern. Move to Table 3 for triad evaluation</li> </ul>
Yes	No	Not Available	Contaminants do not appear to be bioavailable	<ul style="list-style-type: none"> <li>• Collect benthic data that correlates with MLS station data</li> <li>• Perform TIE if chemical and benthic assemblage data indicate persistent degradation</li> </ul>

\* The triad method may require establishing a slow stream bioassessment (SSB) dataset. SSB refers to assessing the assemblage of soft bottom benthic organisms from samples taken as near to MLS as possible, but upstream of any brackish water influence.

**Table 4. Tabular Decision Matrix – Chemical, Toxicity, and Benthic Assemblage Data Available.**

<b>Chemistry</b>	<b>Toxicity</b>	<b>Benthic Alteration</b>	<b>Possible Conclusion(s)</b>	<b>Possible Actions or Decisions</b>
Yes	Yes	Yes	Strong evidence for pollution-induced degradation	Utilize TIE to identify contaminants of concern
No	No	No	No evidence of pollution-induced degradation.	No action necessary
Yes	No	No	Contaminants are not bioavailable	No action necessary
No	Yes	No	Unmeasured contaminant(s) or conditions have the potential to cause degradation	<ul style="list-style-type: none"> <li>• Recheck chemical analyses; verify toxicity test results</li> <li>• Conduct TIE if toxicity results are persistent</li> </ul>
No	No	Yes	Alteration is probably not due to toxic contamination	<ul style="list-style-type: none"> <li>• No action is necessary due to toxic chemicals (action may be necessary for other reasons, e.g. physical habitat changes)</li> </ul>
Yes	Yes	No	Toxic contaminants are bioavailable, but in situ effect are not demonstrable	<ul style="list-style-type: none"> <li>• Recheck results from benthic analyses, consider additional data analyses</li> <li>• If recheck indicates benthic alteration, perform TIE to identify contaminant(s) of concern</li> <li>• If recheck shows no effect, do TIE if chemistry and toxicity data indicate persistent degradation</li> </ul>
No	Yes	Yes	Unmeasured toxic contaminants are causing degradation	<ul style="list-style-type: none"> <li>• Perform TIE. Recheck chemical analyses and consider additional advanced chemical analyses.</li> </ul>
Yes	No	Yes	Inconclusive	<ul style="list-style-type: none"> <li>• Confirm/verify lack of toxicity</li> <li>• Investigate reason(s) for benthic assemblage alteration</li> <li>• Perform TIE if chemistry data and benthic assemblage data show persistent degradation</li> </ul>

Based upon the review of the program activities, recommendations for the future program efforts and design will be made to answer specific questions such as source identification, cause of toxic impairment, or other concerns identified in the information.

## ***Coastal Storm Drain Outfall Monitoring Program***

### **Background**

Order No. 2001-01 requires the stormwater Co-permittees to establish a perennial Receiving Waters Monitoring and Reporting Program that includes the development and implementation of a Coastal Storm Drain Outfall Monitoring Program element. This portion of the overall program will monitor bacteria levels in urban runoff from coastal drains and evaluate the relationship between storm drain discharges and exceedances of bacteriological water quality standards in the coastal receiving waters. Coastal receiving waters include the Pacific Ocean, and the bays, harbors, and lagoons listed in Table 3-4 of the Basin Plan that are within San Diego County.

The nine coastal Co-permittees in San Diego County and the County of San Diego Department of Environmental Health (DEH) will implement the Coastal Storm Drain Outfall Monitoring Program. The coastal Co-permittees include the cities of Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, San Diego, Coronado, and Imperial Beach, and the San Diego Unified Port District. For this Coastal Storm Drain Monitoring Program, the term Co-permittees will refer specifically to the above entities and will not include the non-coastal stormwater Co-permittees.

DEH currently conducts an extensive storm drain-related coastal monitoring program. Section 115880 of the California Health and Safety Code (CH&SC) mandates that all beaches adjacent to flowing storm drains be monitored for indicator bacteria at least weekly between April 1 and October 31. Assembly Bill (AB) 411 added this requirement to the CH&SC in 1999. Sampling is currently conducted by DEH and eight other agencies at 65 coastal storm drain locations and 11 natural river and creek outlets in the County under the AB 411 program. The Coastal Storm Drain element is designed to assess the bacteriological water quality of local stormwater conveyances and therefore, will not include these rivers and creeks.

### **Program Requirements**

Order 2001-01 requires the Co-permittees to develop a Coastal Storm Drain Outfall Monitoring Program that meets the following conditions:

1. The program must include rationale and criteria for selecting the storm drain outfalls to be monitored.
2. The program must include the collection and analysis of total coliforms, fecal coliforms and enterococci. Other indicators and pathogens may be identified and used by the Co-permittees.

3. Samples must be collected at both the storm drain outfall and in the receiving water in ankle to knee-deep water. (Note: This requirement conflicts with current standard practices for coastal bacteriological monitoring in California, which recommends sampling 25 yards down current of the storm drain outfall. A Technical Change Order will be requested to resolve this inconsistency.)
4. Samples must be collected in both dry and wet weather periods.
5. Exceedances of public health standards for bacteria must be reported to the County Department of Environmental Health as soon as possible by the Co-permittees.

### **Monitoring Objectives**

The objectives of the Coastal Storm Drain Outfall Monitoring Program are the following:

1. Evaluate the impacts of coastal storm drains on the recreational beneficial uses in coastal receiving waters.
2. Determine if bacteriological water quality improves or declines seasonally and over time.
3. Develop a coastal water quality database.

### **Sample Location and Frequencies**

The Co-permittees will use a two-phased approach that uses both prescriptive and adaptive protocols to meet the requirements of Order 2001-01. During the first year, the Co-permittees will monitor the coastal receiving waters and storm drain outfalls with the prescriptive protocol discussed below. After one year of collecting and analyzing data, and evaluating their coastal storm drain systems, the Co-permittees will move to an adaptive sampling protocol. In the absence of SDRWQCB-approved adaptive sampling protocols, the Co-permittees will continue to implement prescriptive sampling.

#### *A. Prescriptive Process*

In 1999, dry weather flowing storm drains discharging onto recreational beaches were identified in San Diego County to address the requirements of CH&SC 115880 (AB 411). The Co-permittees will use the AB 411 program as the initial basis for the prescriptive Coastal Storm Drain Outfall Monitoring Program. The site selection criteria for the prescriptive phase are 1) the number of people using the coastal area and, 2) the presence of flowing storm drains. The sampling frequency will vary as described below.

#### **Year 1: Wet Season Monitoring (November 1, 2001 to March 31, 2002)**

1. Paired samples<sup>1</sup> will be collected monthly at the coastal storm drains identified in the AB 411 monitoring program that discharge into coastal receiving waters.

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<sup>1</sup> A paired sample refers to the concurrent collection of samples from the outfall and the receiving water.

Samples will be collected at all identified flowing storm drain outfalls even if the runoff discharge is not coming into immediate contact with the receiving water. The samples will be collected at the outfall and 25 yards down current in the receiving water unless unsafe conditions exist. Samples will not be collected at either the outfall or in the receiving water if the outfall has no flow.

2. If a scheduled sample time falls within 72 hours after the completion of a rainstorm, sampling will be deferred to another time during the same calendar month. Studies have shown a large increase in bacteria, much of it from natural sources, after rainstorms. Sampling within 72 hours after a rainstorm would therefore not be representative of the typical conditions resulting from non-stormwater flows.
3. Currently there are very little data collected from coastal storm drains flowing during the wet season in San Diego County. During the first year of the Program, it will be necessary for the Co-permittees to evaluate which storm drains are flowing during non-storm periods in the wet season. Bacteriological data collected during the first wet season will be reviewed by each Co-permittee to determine priorities for referral to their Illicit Discharge/ Illicit Connection (IC/ID) Program. Local storm drain outfall data collected during this wet season period that shows sporadic and/or uncharacteristic levels of bacteria will be reviewed to determine the need for source identification by the Co-permittees' IC/ ID program or inclusion of the storm drain into the Co-permittee's Dry Weather Monitoring program for the year 2002.
4. Beginning with the 2001 – 2002 wet season, the Co-permittees will conduct ongoing evaluations of their coastal drainage systems to identify storm drains that should be included in the Coastal Storm Drain Outfall Monitoring Program. Additional storm drains that are identified will be incorporated into the program by the following season.

Year 1: Dry Season Monitoring (April 1, 2002 to October 31, 2002)

1. Paired samples will be collected every two weeks at flowing storm drain outfalls discharging to coastal receiving waters (i.e. ocean). Samples will be collected even if the runoff discharge is not coming into immediate contact with the receiving water (e.g. pooling has occurred as a result of discharge from the storm drain, between the drain and the receiving water). The samples will be collected at the outfall and 25 yards down current in the receiving water unless unsafe conditions are encountered. Samples will not be collected at either the outfall or in the receiving water if the outfall does not have flow/discharge.
2. If a scheduled sample time falls within 72 hours after the completion of a rainstorm, sampling will be deferred to the next regularly scheduled sampling event. Studies have shown a large increase in bacteria, much of it from natural sources, after rainstorms. Sampling within 72 hours after a rainstorm would therefore not be representative of the typical conditions resulting from non-stormwater flows.
3. Data will be reviewed periodically during the first dry season. Each Co-permittee will identify the sites having frequent receiving water exceedances. If the paired sample data indicate that the high bacteria counts originate from the storm

drains, these storm drains will be given a high priority and referred to the IC/ID program for follow up investigations.

4. During the dry season, additional analysis will be performed to determine an appropriate adaptive sampling strategy as described in the adaptive process below.

#### *B. Adaptive Process*

Coastal monitoring guidance at both the Federal and State level indicates that adaptive sampling is the best approach to designing a monitoring program. At the State level, the Beach Water Quality Workgroup led by the State Water Resources Control Board is developing guidance on how to establish coastal monitoring locations and frequencies. The USEPA is also developing a National Beach Guidance and Performance Criteria for Recreational Waters. Both of these guidance documents will be reviewed by the Co-permittees and used to help develop the adaptive sampling protocol.

At the conclusion of the first full year of monitoring, the Co-permittees will review the complete database to determine the appropriateness and applicability of an Adaptive Shoreline Monitoring matrix or any other available tools. Recommendations may include modifications to monitoring frequencies and locations for subsequent years.

#### Sampling Strategy

The Beach Water Quality Workgroup Monitoring Subcommittee has concluded that two important criteria should be considered when determining sampling frequency; 1) the number of people using the coastal area and, 2) the risk of contamination. By addressing these two items the spatial and temporal distribution of sampling can be allocated in a way that provides the best data for the number of samples collected.

During the first year of monitoring, the coastline will be surveyed to determine coastal usage. Storm drains at high attendance beaches will be sampled more frequently than coastal areas not used by the public.

The following criteria will be considered in establishing the risk of contamination at an area:

- Historical Beach Postings and Closures  
Because beach postings and closures are in response to bacterial monitoring and sewage spills, they provide an indication of water quality that is useful in assessing priorities.
- Storm Drain Flows  
Storm drains with higher urban runoff flows will be considered a greater risk than drains with trickle or intermittent flows.
- Drainage Area Size and Land Use  
*Larger and more developed drainage areas typically have a greater potential for coastal contamination.*

- Recreational Water Use  
Areas with high recreational use will be monitored more frequently than lagoons, harbors, or other coastal areas not used for body contact recreation.
- Jurisdictional Considerations  
Storm drains that do not drain land located within a Co-permittee's jurisdiction will initially be assigned a lower priority. This would include conveyances that drain property solely on State beaches.

### **Analytical Methods**

All samples will be analyzed for total and fecal coliform, and enterococcus indicators during both the prescriptive and adaptive phases of the program. The Co-permittees will use laboratories certified by the Environmental Laboratory Accreditation Program (ELAP) Division of the California Department of Health Services and will assure that only methods approved by the ELAP Division are used to analyze the samples. All ocean and storm drain samples should be prepared by the analytical laboratory to allow the enumeration of bacterial densities from 20 – 160,000 MPN/ 100 mls.

### **Reporting**

All sample results will be collected electronically and submitted annually to the SDRWQCB.

Any bacteria levels in coastal waters exceeding the State established limits will be immediately reported to the County Department of Environmental Health (DEH). The minimum protective bacteriological standards for waters adjacent to public beaches and public water-contact sports areas are listed in Title 17 of the California Code of Regulations, Section 7958. These single sample standards are:

- 1,000 total coliforms bacteria per 100 mls, if the ratio of fecal/total coliforms bacteria exceeds 0.1; or
- 10,000 total coliforms bacteria per 100 mls; or
- 400 fecal coliforms bacteria per 100 mls; or
- 104 enterococcus bacteria per 100 mls.

Persistent storm drain exceedances will be reported to each Co-permittee's Illicit Discharge and Connection Program for source investigation.

**Program Assessment**

The Co-permittees will evaluate the extent of bacterial contamination at the sampled locations annually. Beach posting and closures due to flows from storm drains will be reviewed and used to help focus monitoring. The first year of the program will be used to develop baseline data and evaluate the Co-permittees' coastal storm drain systems. Over time, the Coastal Storm Drain Outfall Monitoring Program will be refined as more information about the relationship between coastal storm drain discharges and coastal water quality becomes available.



**CITY OF SAN DIEGO**  
***Storm Water Pollution Prevention Program***  
**Dry Weather Analytical and Field Screening Monitoring**  
***Specifications for the Chollas Creek Watershed***

Introduction

The dry weather monitoring program is designed to detect illicit discharges and illegal connections and to monitor the physiochemical and bacteriological characteristics of urban runoff throughout the City of San Diego (City). To efficiently track and monitor runoff conditions and pollution, the City designed this program to actively monitor major storm drain pipes, outfalls, and conveyance systems using an adaptive and prescriptive process. The information and data gathered from this project will improve the existing GIS map layer by: providing a physiochemical and biological baseline dataset that spatially characterizes dry weather storm drain runoff and providing information that will help develop future monitoring efforts. The dry weather monitoring program does not directly monitor creeks, lagoons, oceans, bays, or other receiving waters. However, the information gathered from the dry weather monitoring program will be evaluated in a coordinated and integrated manner with the rapid stream bioassessment, wet weather, coastal storm drain, and ambient waters monitoring programs.

**Municipal Separate Storm Sewer Map (MS4)**

The MS4 (storm drain) map included in this submission was developed using SANGIS GIS layers managed by the City and County of San Diego. The maps include the most recent major revisions and updates performed in 1997 and include an aerial ortho photograph background with storm drain, Thomas Brothers® map coordinates and watershed boundaries for easy referencing. Major development and improvement areas of Carmel Valley and Otay Mesa are not accurately represented on this map and may have more development and functioning storm drain systems not shown on the map. An update project is being organized which plans to map new storm drain systems constructed including major improvements and development in the Carmel Valley, Sorrento Valley, and Otay Mesa communities.

Dry Weather Monitoring Station Selection

The City developed its monitoring station evaluation and selection criteria based upon a station's proximity to sensitive water bodies, tributary drainage area, watershed location, land use, and previous monitoring histories. Many of the criteria were easily identified by reviewing a 1999 high-resolution aerial ortho-photograph of the City. Monitoring station site identifications (Site ID's) will correspond with hydrologic unit numbers and watersheds for easy reference, querying, and data analysis.

As part of this project, field monitoring staff will be verifying the existing inventory of storm drain systems, noting additional unmapped drains, and confirming land use designations qualifiers at each monitoring station.

#### Complete MS4 Map

The storm drain maps have been marked with stars at locations where the City identified potential monitoring stations (see attachments). The City identified 338 potential storm drain monitoring locations of which approximately 300 will be designated as monitoring stations while the remaining 38 serve as alternative stations. The monitoring stations are spatially located throughout the City with intense, focused monitoring within highly developed communities located adjacent to or discharging into receiving water. Once the upcoming major revisions of the MS4 maps have been completed by SanGIS, the City expects to identify an additional 50 monitoring stations for a total of approximately 400 potential monitoring locations.

#### Dry Weather Monitoring Procedures

The City will monitor approximately 300 storm drain sites during the first dry weather monitoring season by performing a combination of the following activities: visual observations, discharge measurement, water field screening, and analytical water monitoring. City staff will utilize a combination of portable field meters, reagent based indicator reactions, and dip strips. A contract laboratory will perform all analytical monitoring using standard or EPA approved laboratory methods consistent with requirements of 40CFR136. Based upon the monitoring data review, updated storm drain maps, and other findings, the City may add additional and/or abandon monitoring sites and increase or decrease sampling frequency in subsequent years. At a minimum, the City will comply with all requirements outlined in Attachment E Section 4 of the Municipal Storm Water Permit as described below:

#### Monitoring Frequency

Beginning April 2, 2002, The City will begin monitoring its storm drain system under requirements of the new municipal storm water permit. Each of the approximately 300 monitoring stations will be visited at least once the first monitoring season. The City expects to monitor approximately 50 sites per month over a 6-month period ending September 30, 2002. Monitoring will be performed over the same 6-month period in subsequent years. The City will follow standard guidance in the event of rainfall during dry weather monitoring periods and not collect samples until at least 72 hours after a storm event measuring 0.1 inches or greater.

#### Decision to Monitor

At all monitoring sites regardless of flow conditions, City staff will record a GPS point and document all visual observations: odor, color, clarity, floatables, deposits/staining, structural condition, flora, and fauna. Based upon previous years monitoring, the City expects to find approximately half of the monitoring stations flowing sufficiently to collect water samples and will perform field screening at all flowing stations (150 stations) and select analytical monitoring stations (75 stations). Sites selected for analytical monitoring were chosen due to a site's intensely developed upstream tributary watershed. A table attached at the end of this document entitled *Dry Weather Monitoring Parameters* clearly shows what information and samples will be collected at applicable sites.

#### Quality Assurance and Quality Control

To ensure that all observations, water collection and analysis, and field reporting activities are performed consistently, field staff will operate under the

requirements of the City's *Dry Weather Monitoring Quality Assurance and Quality Control Plan*.

The quality assurance portion acts as a Standard Operating Procedure (SOP's) and

- Standardizes the field monitoring data sheet by establishing specific and defined observation qualifiers and discharge measurement methods.
- Describes appropriate water collection and analysis procedures by establishing common reporting units, analytical methods, detection limits, and analytical range.
- Requires review and reexamination of laboratory methods, data, field protocols, and field notes.

The quality control procedures will compliment the quality assurance documentation, which will

- Ensure data is uniform, statistically comparable, and analytically accurate.
- Ensure accurate recording and records.

#### Follow-up Investigation Criteria

*The City's Dry Weather Storm Drain Field Monitoring Data Sheet is attached for reference. Field staff will record all pertinent information while at the monitoring station and complete the remaining fields on the field data sheets after the laboratory reports the analytical monitoring data. Once the field form is completed and quality checked, staff would make a Xerox copy of the field form. One form will be placed in a permanent file and one will be collated with others field forms for reporting purposes.*

*The City will maintain a computer database containing all field screening and analytical water testing data, field observations, and flow measurements. The computer database and dry weather monitoring field sheets will be reviewed for adverse flow conditions, presence or absence of chemical constituents, and to evaluate for and determine trends. In the long term, the City foresees using statistical analysis to establish trigger and exceedence criteria. A simple confidence interval may be an appropriate statistical tool to use since it would provide an expected data range and identify outlier values. At this time, insufficient data exists to develop confidence intervals and statistical outlier criteria for storm drain samples. Past monitoring stations were located in creeks, not at storm drain outfalls, thus the data is not directly applicable and would not provide accurate confidence intervals due to dilution and mixing factors. For the first monitoring season, field staff will initiate an investigation and possible further sampling based upon best professional judgment.*

*Best professional judgment will involve correlating water chemistry data with observed physical, environmental, and biological conditions at the monitoring stations. For quick determination in the field, City staff developed the field monitoring sheet to include internal "investigation initiation triggers." The observation table is arranged into columns so that the results provide a quick, semi-qualitative analysis of the observations. If all or most of the observations are found in column 1, field staff will initiate little or no follow-up. If all or most of the observations are found in column 2, field staff will evaluate field screening*

*data and initiate an investigation if warranted. If all or most of the observations are found in columns 3 and 4, field staff will immediately initiate an investigation.*

	1	2	3	4
<b>Odor</b>	None	Musty	Chemical	Sewage
<b>Color</b>	None	Brown (Silty)	White (Milky)	Gray
<b>Clarity</b>	Clear	Transparent	Slightly Cloudy	Opaque
<b>Floatables</b>	None	Trash	Bubbles/Foam	Sheen
<b>Deposits</b>	None	Sediment	Particulates	Fecal Matter

*Observations Table from Dry Weather Monitoring Field Data Sheet*

### ***Subsequent Monitoring***

*Monitoring sites will be monitored in subsequent years for the remainder of the current storm water permit based upon adverse flow conditions, abnormal or otherwise adverse concentrations of pollutants as determined by statistical analysis, or areas of special concern.*

### ***Pollution Source Identification and Abatement***

*Consistent with the City's Illicit Discharge and Illegal Connection component of its Jurisdictional Urban Runoff Management Plan, the City will abate known sources of illicit discharges and illegal connections and will make a concerted effort to identify any source(s) contributing to elevated pollutant concentrations and adverse flow conditions documented by the dry weather monitoring program. Source investigation may include: visual inspections of gutters; storm drains, creeks and other tributary areas; additional upstream sampling to localize and identify potential sources; reviewing land uses likely to contribute specific pollutants; and/or installation of continuous monitoring equipment. Source abatement will be initiated and completed by the Storm Water Program's code compliance staff. With assistance from water monitoring and engineering staff, code compliance officers may require the implementation of storm water best management practices to minimize pollutant discharges.*

*DRY WEATHER MONITORING PARAMETERS AND INVESTIGATION INITIATION  
TRIGGERS*

		No Flow Sites	Flowing Sites w/ Field Screening	Flowing Sites w/ Analytical Monitoring	Pr
	GPS Coordinate (NAD 83)	•	•	•	D%
1	Odor	•	•	•	Se
2	Color	•	•	•	n
3	Clarity	•	•	•	In
4	Floatables	•	•	•	
5	Deposits/Stains	•	•	•	
6	Structural	•	•	•	
7	Flora	•	•	•	No
8	Fauna	•	•	•	No
9	Temperature		•	•	
10	pH		•	•	
11	Turbidity		•	•	
12	Conductivity		•	•	
13	TDS		•	•	N/A
14	Ortho Phosphate as P		•	•	
15	Nitrate as N		•	•	
16	Ammonia as N		•	•	
17	Copper (dissolved)			•	
18	Cadmium (dissolved)			•	
19	Lead (dissolved)			•	
20	Zinc (dissolved)			•	
21	Total Hardness			•	
22	Surfactants (MBAS)			•	
23	Diazinon			•	
24	Chlorpyrifos			•	
25	Oil and Grease			•	
26	Total Coliform			•	
27	Fecal Coliform			•	
28	Enterococcus			•	

DRY WEATHER STORM DRAIN MONITORING SITE DIRECTIONS  
CHOLLAS CREEK WATERSHED STATIONS

**\*Laboratory Analytical Sample Stations**

Attachment 2 to Letter 1 - City of San Diego  
Item 16, Attachment 15

SAMPLE SITE	THOMAS BROS	DIRECTIONS	GPS COORD (Nad83/DM.mmmm) LATITUDE	
DW117	1270 D-4	College Ave south, left on University Ave, right on Rolando Blvd. Park ASAP. The med pipe outfall is located approx 10 yards east in culvert on the left hand side of Rolando Blvd.	N32°45.2353'	V
DW118	1270 E-7	The med pipe outfall is located on the corner of Federal Blvd and Central Ave and enters the creek on the south east side of intersection.	N32°44.2125'	V
* DW120	1270 B-6	54 <sup>th</sup> south, right on 52 <sup>nd</sup> . Park ASAP. The large pipe outfall is located approx 30 yards west of 54 <sup>th</sup> . Outfall drains into Chollas Creek. It is easy to find from the north side, but accessible on the south.	N32°44.6310'	V
DW124	1269 G-6	South on 43 <sup>rd</sup> St, make a right onto a small street just prior to Thorn St. Park ASAP. The small pipe outfall is located approx 10 yards east of 3312 43 <sup>rd</sup> St.	N32°44.4216'	V
DW125	1269 H-6	Park at 42 <sup>nd</sup> and Thorn St. The med outfall (two pipes) are located approx 10 yards south of the end of 42 <sup>nd</sup> , down embankment, use trail.	N32°44.3912'	V
*DW182	1290 G-3	Meadowbrook Dr north, left on San Vicente St. Park at end of San Vicente St. The med pipe outfall is located approx 10 yards beyond the cul-de-sac.	N32°42.4855'	V
*DW183	1290 E-3	From DW182, north on Meadowbrook Dr. left on Jamacha Rd (turns into Lisbon St), double left onto 69 <sup>th</sup> St, right on Madro Ave. Park ASAP. The med pipe outfall is located approx 5 yards down embankment north of the corner of Review Dr and Madron Ave.	N32°42.5303'	V
* DW184	1290 E-3	Park at the corner of Imperial Ave and 66 <sup>th</sup> . The med pipe outfall is located adjacent to the corner of Imperial Ave and 66 <sup>th</sup> St on the north side of the concrete culvert. Access the culvert near 65 <sup>th</sup> St via unlocked gate in fence.	N32°42.6696'	V
*DW190	1290 A-4	Park at "Food for Less" at 400 Euclid Ave (near Market St). The med pipe outfall is located in the Chollas Creek bed on the east side, approx 50 yards southeast. Use the picture for reference because there is construction in the area and other pipes close by. DW190 is the largest of the pipes in the area.	N32°42.4908'	V
DW193	1289 H-2	Park at the Berardini Baseball Field located at 4402 Federal Blvd. The med pipe outfall is located just south of the 2 <sup>nd</sup> field (more eastern) approx 30 yards east of the concrete section of the culvert.	N32°43.3013'	V
DW194	1289 H-2	Park at 4576 Federal Blvd. Walk approx 50 yards north down a small open culvert located between businesses. At the end of this culvert is a rock energy dissipater. The med pipe outfall is located approx 20' to the right of this rock structure.	N32°43.3868'	V
DW195	1289 J-1	From Federal Blvd, north on Fairmont Ave, right on 47 <sup>th</sup> St. Drive to the entrance of a mobile home park. Park on 47 <sup>th</sup> at this entrance. The med pipe outfall is located directly south of this entrance in the creek bed, which is approx 10 yards south.	N32°43.6712'	V

Attachment 2 to Letter 1 - City of San Diego  
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SAMPLE SITE	THOMAS BROS	DIRECTIONS	GPS COORD (Nad83/DM.mmmm) LATITUDE	
* DW196	1289 J-1	From DW195, continue down to the end of 47 <sup>th</sup> St and park. Walk north to a large concrete culvert that feeds into Chollas Creek. Walk approx 50 yards eastward up this culvert to the large pipe outfall.	N32°43.7788'	V
DW197	1289 H-1	From Home Ave, north on Hixson Ave, left on Trailing Dr, right on Springer Rd, right on Panay Ct. Park at the cul-de-sac at 1970 Panay Ct. Descend into canyon below (use picture). The large pipe outfall is located in the creek bed adjacent to the freeway off ramp. The outfall is on the eastside of the creek.	N32°43.6662'	V
DW198	1289 J-4	Park at 303 47 <sup>th</sup> St. Walk into the parking area at the "Creskide Villas." Walk westward to access the creek located in the back of the complex parking area. Once you have reached the creek bed, walk back eastward in creek approx 40 yards to the large pipe outfall (located adjacent to the parking area).	N32°42.4294'	V
DW199	1289 J-5	For DW199, 200, and 201...Imperial Ave, south on Market Place. Park at Market Place and Ocean View Blvd. Access Chollas Creek on the west side of the bridge on Market Place. The small pipe outfall (DW199) is located on the south side of the creek, just west of the Bridge on Market Place. Walk eastward up the creek approx 50 yards to the med pipe (DW200) outfall that is located on the south side of the creek. Across from this outfall lies yet another medium pipe outfall (DW201) located on the north side of the creek.	N32°42.1053'	V
DW200	1289 J-5	See DW199 directions.	N32°42.1009'	V
DW201	1289 H-5	See DW199 directions.	N32°42.0557'	V
DW202	1289 G-6	South on 38 <sup>th</sup> St, right on Beta St. Park at the sharp curve (end of road) where the sign says "Thor St and Birch St." Walk to the "ramp access" to creek located approx 30 yards southwest. The med pipe outfall is located just 5 yards west of this "ramp access."	N32°41.4697'	V
* DW203	1289 F-5	Park at the bridge, which crosses Chollas Creek at 3316 National Ave. Access the creek on the southeast side of National Ave. Walk up creek underneath bridge to the large pipe outfall located approx 20 yards north of bridge.	N32°41.7852'	V
DW204	1289 F-4	For DW204, 205, and 206...West on Ocean View Blvd, north on 33 <sup>rd</sup> St, right on Durant St. Park at the cul-de-sac at 3343 Durant St. Walk down access ramp to large concrete culvert (Chollas Creek). There is a small pipe outlet (DW204) located just southwest of the base of this access ramp. Walk approx 60 yards north up culvert to a large pipe outfall (DW205) located on the east side of culvert. Walk another 40 yards up culvert to a med pipe outlet (DW206) located underneath bridge (Imperial Ave) on the west side of culvert.	N32°42.2685'	V
DW205	1289 F-4	See DW204 directions.	N32°42.3582'	V
* DW206	1289 F-4	See DW204 directions.	N32°42.3970'	V

Attachment 2 to Letter 1 - City of San Diego  
Item 16, Attachment 15

<b>SAMPLE SITE</b>	<b>THOMAS BROS</b>	<i>DIRECTIONS</i>	<b>GPS COORD (Nad83/ DM.mmmm) LATITUDE</b>	
DW207	1289 F-3	Market St, south on 33 <sup>rd</sup> St, left on Island Ave. Park at cul-de-sac (3340 Island Ave). Enter large culvert (Chollas Creek) through a hole in the fence. The large pipe outfall is located directly below the cul-de-sac. Do not sample the three small pipe outlets (street drains) on the left hand side of DW207.	N32°42.6598'	V
DW209	1289 F-2	Juniper St east, right on Pentuckett Ave, right on Petra Dr, left on Friedrich Dr. Park at Friedrich Dr and Whaley. Descend into canyon via at the beginning of Whaley. Large pipe outfall is located approx 40 yards below at the beginning of the canyon. Hint: follow a small open culvert to the bottom, look to the right.	N32°43.3678'	V
*DW298	1289 F-5	See directions to DW203. Park in the dirt lot in front of "Moe-Man Truck and Auto Body" just east of the Chollas Creek Bridge. Sample underneath the bridge.	N32°41.7457'	V
*DW299	1289 G-2	Corner of Home Ave. and Federal Blvd near the junction of the Interstate 15 and Highway 94. Park in the dirt lot across from the police station. If possible, take the sample where the creek beds merge. May need to use sandbags to pool the stream to get enough for an analytical sample	N32°43.1213'	V



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**PART A - COVER PAGE**

STATE WATER RESOURCES CONTROL BOARD  
FFY 2002 CWA section 319(h) Grant Program

Application No. 54

Region Specific Project	<u>X</u>	Indicate Region: RWQCB #	<u>9</u>
Multi-regional Project	<u>      </u>	Indicate Regions: RWQCB #s	<u>      </u>
Statewide Project	<u>      </u>		

RESPONSIBLE  
PROJECT DIRECTOR

(Ms./Mr.): Mr. Bruce Reznik  
(one name only)

PRINT	SIGNATURE	DATE
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ELIGIBLE LEAD (one name only)

APPLICANT OR  
ORGANIZATION:

San Diego BayKeeper

STREET ADDRESS: 2924 Emerson Street, Suite 220

CITY: San Diego Zip 92106  
Code:

STATE California

PHONE NO.: (619) 758-7743 FAX NO.: (619) 758-7740

E-MAIL ADDRESS: [breznik@sdbaykeeper.org](mailto:breznik@sdbaykeeper.org) FEDERAL  
TAX ID. NO.: 33-0647946

PROJECT TITLE: Chollas Creek and Paleta-7<sup>th</sup> Street Channel  
Citizen Monitoring Program

PROBLEM(S) BEING ADDRESSED: (1) Chollas Creek and 7<sup>th</sup> Street Channel (the mouth of Paleta Creek) are CWA section 303(d) impaired waterbodies. In addition, both the mouth of Chollas and Seventh Street Channel are considered Toxic Hot Spots (SWRCB 1999). Presently, elevated levels of nutrients, metals, coliform bacteria, toxicity and pesticides in urban stormwater from the surrounding watershed continue to harm the beneficial uses assigned to these waterbodies. (2) Also, in spite of the fact that pesticides are dangerous contaminants, residential and commercial users of diazinon (an organophosphorus pesticide) in our region are largely unaware of the impact that this and other chemicals have on the integrity of local water resources.

WATERBODY/WATERSHED: Chollas Creek and Paleta Creek-7<sup>th</sup> Street Channel /  
Pueblo San Diego HU (908.30)

**FISCAL SUMMARY:**

**319(h) Funds Requested**

\$205,020

(319(h)/min.\$25,000/max. \$500,000)

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40% Non-Federal Match Contribution	<u>\$136,690</u>
Total Project Budget	<u>\$341,710</u>

**PROJECT SUMMARY:** The applicant is requesting funding to continue its Paleta Creek Citizen Water Quality Monitoring Project (a CWA 319(h) funded project), and to expand it to the nearby Chollas Creek for three years. The collection of data at Chollas Creek will serve primarily to measure the effectiveness of BMP's designed to reduce pesticide, metals loading and toxicity. The proposed project also includes a strong education and outreach component that is aimed at raising community awareness about the impact that toxic runoff has the integrity of local water bodies and exposing the public to pollution reduction practices and Integrated Pest Management.

**PART B - BUDGET SUMMARY SHEET**

**STATE WATER RESOURCES CONTROL BOARD**

APPLICANT:	<u>San Diego BayKeeper</u>		
PROJECT TITLE:	<u>Chollas Creek and Paleta-7<sup>th</sup> Street Channel Citizen Monitoring Program</u>		
	Total Budget	40% Match Share	CWA Section 319 (h) SWRCB Share
1. Personnel Services	<u>\$257,320</u>	<u>\$102,930</u>	<u>\$154,390</u>
2. Operating Expenses	<u>\$14,400</u>	<u>\$5,760</u>	<u>\$8,640</u>
3. Property Acquisitions			
a. Equipment	<u>\$10,290</u>	<u>\$4,120</u>	<u>\$6,170</u>
b. Furniture	<u>0</u>	<u>0</u>	<u>0</u>
c. Portable assets	<u>0</u>	<u>0</u>	<u>0</u>
d. Electronic data	<u>0</u>	<u>0</u>	<u>0</u>
e. Processing equipment	<u>0</u>	<u>0</u>	<u>0</u>
f. Miscellaneous (disposable lab supplies)	<u>\$19,800</u>	<u>\$7,920.00</u>	<u>\$11,880</u>
4. Professional and Consulting Services	<u>\$39,900</u>	<u>\$15,960.00</u>	<u>\$23,940</u>
5. Construction Expenses	<u>0</u>	<u>0</u>	<u>0</u>
		<u>0</u>	<u>0</u>
6. CEQA/NEPA	<u>0</u>	<u>0</u>	<u>0</u>
7. Overhead (%)	<u>10</u>	<u>10</u>	<u>10</u>

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TOTAL BUDGET	<u>\$341,710</u>	<u>\$136,690</u>	<u>\$205,020</u>
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8. Match Share in dollars – See previous example to calculate match share.

Describe the source, nature (e.g., cash, volunteer labor, or in-kind services) of the 40% nonfederal-matching funds indicated above.

Volunteer labor (San Diego BayKeeper citizen monitoring taskforce) - \$45,000

In-Kind services (including use of San Diego BayKeeper laboratory for testing) - \$38,500

Cash contributions (from various sources, including San Diego BayKeeper general operating funds). - \$53,183.92

*Note: The SWRCB reserves the right to adjust project awards. Applicants may be asked to reduce their project budgets. Applicants should be prepared to provide detailed justification of costs by task for their project*

**PART C - PROJECT QUESTIONNAIRE**

PROJECT TITLE: Chollas Creek and Paleta-7<sup>th</sup> Street Channel  
Citizen Water Quality Monitoring Program

LEAD AGENCY: San Diego BayKeeper

ADDRESS: 2924 Emerson Street, Suite 220  
San Diego  
California, 92106

PROJECT DIRECTOR: Bruce Reznik

PHONE NO.: (619) 758-7743 FAX NO.: (619) 758-7740

E-MAIL ADDRESS: [breznik@sdbaykeeper.org](mailto:breznik@sdbaykeeper.org)

3a. WATERSHED IN WHICH THE PROJECT WILL BE UNDERTAKEN: Pueblo San Diego HU (908.30)

3b. COUNTY IN WHICH THE PROJECT WILL BE UNDERTAKEN: San Diego

3c. IS THE PROPOSED PROJECT WITHIN THE CALFED SOLUTION AREA? \_\_\_\_\_ yes X no

3d. Do you want your project forwarded to CALFED to alert CALFED to your need for funding? \_\_\_\_\_ yes X no

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IDENTIFY THE MAJOR SOURCES OF NPS POLLUTION THAT WILL BE ADDRESSED BY THE PROPOSED PROJECT (CHECK ALL APPROPRIATE SOURCES).

<input type="checkbox"/> Agriculture	<input type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Urban (Construction, Roads, Septic Systems)
<input type="checkbox"/> Marinas and Boating Activities	<input checked="" type="checkbox"/> Hydromodification	<input checked="" type="checkbox"/> Stormwater/Urban Runoff
<input type="checkbox"/> Resource Extraction	<input type="checkbox"/> Other: _____	

PROPOSAL DESCRIPTION

a. PROBLEM STATEMENT

**Chollas Creek is a CWA 303(d) impaired waterbody and its mouth a Toxic Hot Spot due to the presence of high levels of pesticides, metals, and toxicity. Stormwater samples from Chollas Creek have frequently exceeded both chronic and acute water quality criteria established in the California Toxics Rule (CTR) (40 CFR Part 131) for copper, lead, and zinc. Also, this waterbody has not met the RWQCB Basin Plan toxicity objectives for almost all tests performed since 1994 (URS Greiner Woodward Clyde 1994-1999). In addition, just south of Chollas Creek is Paleta Creek, which drains into 7<sup>th</sup> Street Channel, a Toxic Hot Spot also on the CWA 303(d) list. Paleta Creek and 7<sup>th</sup> Street Channel receive industrial, commercial and municipal discharges and continue to be impacted by urban stormwater runoff. Water samples from Paleta Creek indicate the presence of high levels of metals and coliform while sediment samples from 7<sup>th</sup> Street Channel show elevated levels of metals and pesticides (DDT). Furthermore, during rain periods, pollutants from these creeks flow directly into San Diego Bay resulting in a visually distinct, toxic, plume of contaminants (SCCWRP 2001). These contaminants affect sensitive habitat, harm biodiversity and pose a latent risk to public health. Already, 14 acres of San Diego Bay adjacent to the mouth of Chollas Creek have been 303(d) listed for having impaired benthic communities and elevated sediment toxicity. To address these problems, the San Diego Regional Water Quality Control Board (SDRWQCB) is completing TMDLs for Chollas and 7<sup>th</sup> Street Channel. Currently, metals and diazinon TMDLs are underway for Chollas Creek and benthic community degradation TMDLs for Chollas and 7<sup>th</sup> Street Channel are in the planning stages.**

The presence of the pesticide diazinon, in stormwater is of special concern because of its immediate impact on both organisms and humans. In December of 2000, in recognition of the dangers that Diazinon poses to human health, the EPA announced the phasing out of and elimination of many of the uses for Diazinon. This pesticide, used in household ant and roach sprays and in a wide range of garden and lawn sprays, is believed to pose special threats to children even at low doses. In spite of the eventual phasing out of Diazinon the pesticide is still widely available and most commercial and residential users continue to employ diazinon without understanding its proper handling and disposal. As this lack of information persists it is likely that diazinon will continue to have an impact on Chollas and Seventh Street Channel and the adjacent areas of San Diego Bay.

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A recent report from the National Oceanic and Atmospheric Administration (NOAA) and the California State

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Resources Control Board concerning levels of toxicity in waterways across the nation, indicated that San Diego

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Bay is the second most toxic of 18 bays in the nation. The implications to the local economy are equally

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concerning. Tourists and conventioners attracted San Diego's scenic waterfront may begin to seek alternative



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locations if beach closures and pollution escalate.

**Despite the, the general public is largely unaware of the impact that urban runoff has on the integrity and quality of our coastal resources. According to a survey done by NOAA, approximately 95% of the American public is unaware of the connection between stormdrain dumping and pollution of coastal areas. Clearly, the key to reducing the threat from stormwater pollution is through implementation of a citizen education and involvement program.**

b. SPECIFIC WATER QUALITY GOALS INVOLVED

The applicant proposes to mobilize and train volunteers to measure the effectiveness of BMP's designed for pesticides, and metals management in Chollas Creek and continue to screen for contaminants of concern at Paleta Creek and 7<sup>th</sup> Street Channel, through expansion of the existing Paleta Creek citizen water quality monitoring project. Applicant will report monitoring results to the San Diego RWQCB, City of San Diego and Port of San Diego, providing an on-going stream of up-to-date data to assist in evaluating the performance of existing pollution prevention measures and implementation needs. Applicant also proposes to conduct a community outreach and education campaign in the watershed to increase the public's awareness of urban and stormwater runoff pollution, with particular emphasis on the organo-phosphorus pesticides (e.g., diazinon), and the actions individuals can take to prevent and reduce toxic urban runoff. The long-term water quality goal is an expected reduction in pollutant loads in Chollas Creek and Paleta Creek.

Expanding the existing citizen monitoring program to Chollas Creek will result in an ongoing source of reliable, up to date data that can assist with measuring the effectiveness of TMDL's for metals and Pesticides implemented at Chollas Creek. Continued monitoring at Paleta Creek will maintain a constant stream of data to the RWQCB that will allow for trend analyses, identification of constituents of concern, and assist in the determination of the necessary pollution prevention measures to be implemented in this watershed. These data will also provide a baseline from which to measure the effectiveness of the TMDL for Seventh Street Channel, projected to be completed and implemented during the third year of this project (2003).

An overarching goal of this program is to assist in the preservation and protection of beneficial uses. The Basin Plan establishes beneficial uses and water quality objectives for Chollas Creek, Paleta Creek and San Diego Bay (SDRWQCB 1994). The beneficial uses for Chollas and Paleta Creeks are: contact water recreation (REC-1), non-contact water recreation (REC-2), warm water habitat (WARM), and wildlife habitat (WILD). Also, given that both Chollas Creek and Paleta Creek drain directly into San Diego Bay and that some areas of San Diego Bay adjacent to the mouth of Chollas indicate impairment, pollution prevention upstream is likely to deter further degradation of beneficial uses in San Diego Bay as well. Some of the Beneficial uses for San Diego Bay include: contact water recreation (REC-1), commercial and sport fishing (COMM), preservation of habitats of special biological significance (BIOL), estuarine (EST), wildlife (WILD) and marine habitat (MAR), migration of aquatic organisms (MIGR), endangered species (RARE), and shellfish harvesting (SHELL).

In addition, expected program outcomes are (1) Implementation of effectiveness monitoring and sampling at ten separate sites on Chollas Creek and Paleta Creek. (2) Quantifiable trend analysis of sampling results. (3) A 20% expansion in the number of volunteers who consistently monitor their sites monthly, submit required reports on time and participate in volunteer meetings. (4) Quarterly community education/ outreach meetings at venues throughout San Diego.

c. PROJECT DESCRIPTION

*Citizen Monitoring*

The applicant was awarded a 319(h) grant in 2000 to implement citizen monitoring at Paleta Creek and Seventh Street Channel. During the past twelve months, the applicant has conducted the only regularly scheduled monitoring and water sampling at the site, providing the RWQCB and the City of San Diego with much needed data on pollutant loads. Although a final report summarizing the results is still being developed, it is expected to recommend continued monitoring of the creek due to the elevated levels of nutrients, coliform, metals, and toxicity. The applicant is therefore requesting a 319h grant to continue citizen monitoring at five sites in Paleta Creek and Seventh Street Channel and expand the existing program to include effectiveness monitoring at five sites in Chollas Creek. Specific sites will be identified in consultation with the RWQCB and City of San Diego.

Two undergraduate science students from Southwestern College will be recruited to serve as Citizen Monitoring Program Interns –supervising the volunteers at Chollas and Paleta Creeks and assisting to ensure that all monitoring is conducted in accordance to standard operation procedures and State Water Board and EPA approved quality assurance guidelines. Project will employ State Water Board and EPA approved standard water monitoring methods successfully utilized during the applicant's previous 319h grant. In addition, to ensure the validity and usefulness of the data generated, results for all parameters will be verified by sending a 20% random sub-sample to a state certified independent lab.

**Citizen monitoring volunteers will conduct monthly basic water quality monitoring (temperature, salinity, dissolved oxygen, pH, and nitrate) and prepare written/photo-documentation of overall site conditions. Volunteers will also conduct quarterly monitoring for hardness, dissolved metals (lead, zinc, copper, and cadmium), coliform bacteria, and pesticides. Quarterly monitoring will include two wet-weather sampling events per year, including one first flush event. Sampling parameters were developed in close consultation with the RWQCB and City of San Diego.**

Samples will be analyzed by the applicant at its water quality lab in Point Loma, recently established in a partnership between the applicant and Surfrider Foundation. In addition to being equipped for basic field water quality analyses (temperature, pH, salinity, dissolved oxygen, hardness) using the latest technology in field meters, the lab is equipped with a field spectrophotometer for nutrient analyses, and metals and organics screening. An IDEXX Quantitray system is also installed to determine MPN/volume of total coliform, fecal coliform and enterococcus. Equipment is operated only by trained staff and experienced volunteers in accordance to QAPP guidelines and in strict observance of data quality objectives. Southwestern College Chemistry Department will assist by utilizing EPA method 8141A for the analyses of organophosphate pesticides at resolutions ranging from 1-20 ppb depending on the compound. TMDL numeric targets for diazinon are 8 and 5 ppb.

Field sheets and photo-documentation techniques developed for the previous 319h grant will be employed and data will be managed with the newly developed CoastKeeper Citizen Monitoring Database system. Quarterly progress report and annual monitoring summary

**reports and trend analysis will be developed by the applicant and distributed to the RWQCB, City of San Diego and other interested stakeholders.**

### ***Training and Implementation***

**Volunteer training techniques and manuals developed and successfully used for the previous 319h grant will be updated and used for this project. Volunteer training will consist of three classroom sessions and three field sessions over a three-month period. The classroom training sessions will include general information about watersheds and sources of watershed pollution. Volunteers will also learn basic techniques for using a GPS instrument for cataloging the exact location of monitoring sites. Basic techniques for monitoring and documenting watershed pollution will be explained in a classroom setting and demonstrated in the field. Volunteers will be trained in field sample collection and preservation, and in the performance of standard water quality testing methods. Volunteers will learn to use multi-measurement probes for basic water quality, spectrophotometers for nutrient analyses, and the IDEXX Quantitray system for bacteria determinations.**

**The field training sessions will provide practical application of the material presented in the classroom. Volunteers will be given interpretive tours of local watershed areas and polluted coastal habitats. The initial field sessions are designed to use familiar landmarks to clearly demonstrate the connection between urban runoff and pollution of watersheds and coastal habitats. Volunteers will be encouraged to identify steps they and their families can take to reduce storm drain pollution in their communities. The final field session will provide hands-on training in storm drain monitoring, documenting and water sampling.**

### ***Education and Outreach***

**The proposed project also includes an extensive educational component to increase awareness of the impacts of urban runoff on local water bodies and the actions that can be taken to reduce these contaminants. The threat from urban runoff and specific monitoring results will be explained in quarterly volunteer meetings, posted on the applicant's website and featured in the applicant's print newsletter. Multi media lectures on urban runoff will be offered to junior/senior high schools in San Diego County and science teachers will be encouraged to involve their classes in field monitoring and water sampling. The applicant will also distribute educational information about urban runoff to the commercial/industrial land users in the watersheds, with suggestions about management methods that will reduce pollution from their businesses. Surfrider Foundation and CalPIRG will assist with development of community outreach/education materials.**

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The applicant will also focus educational outreach on increasing general awareness of the harm from the pesticide Diazinon, which has severely contaminated Chollas Creek and presents a potential human health risk. Most residential and commercial users of Diazinon are unaware of the impact to local water bodies resulting from the use and improper disposal of pesticides. Educational outreach will include distribution of printed materials encouraging environmentally sound management of pests and explanations of techniques for proper disposal of pesticides. Existing educational materials concerning pest management, such as the City of Sacramento's Water Wise Cards and the Department of Pesticide Regulation consumer guide, will be researched to determine applicability to San Diego, potentially minimizing the expense of creating new materials. The applicant will work with the City of San Diego and the RWQCB to identify appropriate venues for distribution of education materials. The applicant will also consult with the RWQCB to identify opportunities to participate in implementing educational outreach actions defined in the Pesticide TMDL for Chollas Creek such as the development and scheduling of live demonstrations of Integrated Pest Management Strategies that eliminate the need for pesticides.

d. WORK TO BE PERFORMED/PROPOSED ACTIONS

i. ITEMIZED TASKS AND MILESTONES

<u>TASK</u>	<u>COMPLETION DATE</u>
<b>Task 1: Contract Management and Administration:</b>	<b>July 2002 and quarterly thereafter</b>
1.1 The applicant will provide all technical and administrative services as needed for contract completion. Ensure work is completed according to contract, within budget, on schedule and in accordance with applicable regulations.	
1.2 The Applicant will ensure all stakeholders complete quarterly progress reports describing actions undertaken, task accomplishment, problems encountered and expenses incurred. These reports will be summarized into quarterly status reports and submitted to the Contract Manager.	
<b>Task 2: Citizen Monitoring – Planning:</b>	<b>August 31, 2002</b>
2.1 <i>Identify interns from Southwestern College to supervise citizen monitoring.</i>	
2.2 <i>Meet with RWQCB representatives to identify sites and discuss parameters of citizen monitoring at Paleta and Chollas Creeks.</i>	
2.3 <i>Map new monitoring sites along Chollas Creek using GPS, and ensure existing sites at Paleta Creek are also mapped with GPS.</i>	
2.4 Update existing QAP and submit to RWQCB Quality Assurance Officer and the contract manager.	
2.5 Coordinate the monitoring work with the SWRCB's Clean Water Team.	
2.6 Purchase monitoring kits and equipment for volunteers. Update training materials.	
2.7 Ensure lab is equipped for testing of samples.	
2.8 <i>Work with Surfrider Foundation and Calpirg to mobilize volunteers to participate in the citizen-monitoring program.</i>	
2.9 Assign teams of community volunteers to specific monitoring locations.	
2.10 Develop process for ongoing submission of test results/trend analysis to RWQCB for summary and review.	

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RWQCB for summary and review.

**June 30, 2005**

**Task 3: Training and Implementation – Citizen Monitoring**

- 3.1 Train community groups in the proper techniques and procedures for citizen monitoring. (Conduct quarterly training sessions as new volunteers are identified.)
- 3.2 Visual monitoring will begin September 1, 2002.
- 3.3 Schedule sampling rounds.
- 3.4 Ensure volunteers monitor and document their assigned stormdrains at least once each month.
- 3.5 Conduct monthly informational meetings with volunteer citizen monitors to discuss results of monitoring and investigation of suspected pollution incidents.
- 3.6 Conduct random quality reviews of the volunteers' results.
- 3.7 Analyze results to determine source of the pollution.
- 3.8 Distribute results to RWQCB and city officials.
- 3.9 Pursue partnerships with identified industrial polluters, city officials and the RWQCB to evaluate effectiveness of BMP's to reduce pollution of Paleta Creek and Chollas Creek Watersheds.

**Task 4: Educational Outreach**

- 4.1 Post articles on urban runoff in newsletter and website. Pursue coverage of citizen monitoring program by local media.
- 4.2 Develop classroom presentation that explains the impact of urban runoff and defines actions individuals can take to reduce these pollutants.
- 4.3 Conduct informational meetings at local high schools; encouraging classes to participate together as citizen monitoring volunteers.
- 4.4 Work with Surfrider Foundation and Calpirg to update community outreach/educational materials to address the impact of urban runoff.
- 4.5 Distribute outreach materials addressing specific pollutants identified in the monitoring samples to communities adjacent to the monitoring site. These materials will suggest actions the public can take to eliminate these particular pollutants.
- 4.6 Research availability of existing educational materials on pesticides (focusing on Diazinon) and integrated pest management techniques. Modify for use in San Diego and identify most effective methods of distribution.
- 4.7 Together with RWQCB, Surfrider and Calpirg, investigate possibility of scheduling public outreach forums to raise awareness of the impact of urban runoff pollution.

**January 2003 for  
initial materials.  
Biannual updates  
of materials.**

**Task 5: Results Analysis**

- 5.1 Enter data into relational water monitoring database.
- 5.2 Analyze results quarterly to determine trends in pollutant loads.
- 5.3 Submit quarterly monitoring results and analysis to the RWQCB.
- 5.4 Prepare quarterly and final reports and distribute to contract manager.

**January 2003 and**

**quarterly  
thereafter**

- ii. METHODS AND MATERIALS TO BE USED IN PERFORMING THE WORK  
Training manuals and materials, field sheets, monitoring techniques developed for the applicant's previous 319h will be updated and used for this project. The applicant will consult with the RWQCB to identify the water quality sampling parameters required at the identified sites.
- iii. REGULATIONS AND STANDARDS TO ASSURE A MINIMUM STANDARD OF QUALITY, REGULATORY COMPLIANCE, AND PRODUCT ACCEPTABILITY. THIS INCLUDES CEQA/NEPA, AS NOTED ON PAGE 6 OF THIS RFP.  
N/A. This project will not have a physical impact on the environment
- e. STARTING AN DEPENDING DATES FOR THE ACTIVITIES PROPOSED FOR FUNDING UNDER THIS GRANT
- |   |  |
|---|--|
| *Project Start date (on or after July 1, 2002):<br>July 1, 2002 | End date (no later than June 30, 2006):<br>June 30, 2005 |
|---|--|
- Is this a phased project or part of a larger project effort?                      Y   X                      N
- \_\_\_\_\_
- If yes, list the start and end dates for the larger project effort.
- |   |           |
|---|-----------|
| Start date:   | End date: |
| January 1999 – Implementation of first citizen monitoring project by applicant. | July 2001 |
- f. MONITORING AND REPORTING PLAN
- Describe any monitoring or reporting that will be necessary to satisfy the requirement to prepare and maintain a Quality Assurance Plan (QAP), or to utilize an approved one, in accordance with the USEPA QAPs for Environmental Data Operations, QA/R5 Interim Final 5/94.
- If awarded funding, the applicant will submit to the SWRCB a monitoring and reporting plan. The applicant will prepare and maintain a QAPP in accordance with the USEPA QAPP and submit this plan to the RWQCB Quality Assurance Officer and the Contract Manager.
- i. Does your project include any type of monitoring activity? If so, will at least a portion of that monitoring be considered Citizen Monitoring? For purposes of this RFP, Citizen Monitoring is defined as any monitoring activity that relies in whole or in part on participation by volunteers, students, or non-paid staff.  
The project includes citizen monitoring.
- ii. What type of monitoring is proposed? For example, types of monitoring activities

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could include photo-documentation, water quality monitoring, benthic macroinvertebrate bioassessment, or fluvial geomorphological measurements. Will your monitoring be oriented toward ambient water or habitat quality, or will it be used to determine the effectiveness of restoration or management measures?

The proposed continuation of citizen monitoring at Paleta Creek will identify pollutant loads and evaluate habitat quality through written and photo-documentation, as well as through four stormwater-sampling rounds per year at each of the five sites. Citizen monitoring at Chollas Creek will measure the effectiveness of management measures implemented as a result of pesticide and metals TMDL's. The effectiveness monitoring at Chollas Creek will also include written and photo documentation and four rounds of water sampling. In all locations, sampling parameters will be determined in consultation with the RWQCB and are expected to include nutrients, bacteria, pesticides, toxicity, hardness, dissolved copper, dissolved lead and dissolved zinc.

g IDENTIFY WORK PRODUCTS OF THIS PROJECT

(1) Quantifiable data describing the effectiveness of management measures to reduce metals and pesticide contamination in Chollas Creek. Also, identification and trend analysis of pollutants loads in Paleta Creek, providing baseline data to assess effectiveness of management measures. (2) Increased awareness among community members of the harm from runoff. (3) A database of community members and local schools willing to become personally involved in citizen monitoring and willing to modify personal behavior to reduce urban runoff pollution.

**RWQCB OR SWRCB STAFF CONTACTED REGARDING THIS PROPOSAL** (List only one. If your project is a multiregion project, then list contacts in all affected regions.):

RWQCB Contact:	<u>Kyle Olewnik</u>	RWQCB Contact:	<u>Kristin Schwall</u>
Phone No.:	<u>858-627-3933</u>	Phone No.:	<u>858-467-2345</u>
Dates contacted:	<u>5-21-01, 6-12-01</u>	Dates contacted:	<u>6-13-01, 6-14-01</u>

**COOPERATING AGENCIES:**

(Note any formal agreements to cooperate.)

Agency Name:	<u>Southwestern College, Physical Sciences Department</u>		
Role/Contribution to Project:	<u>Develop capacity to test for organo-phosphorus pesticides and recommend student interns (as described in MOU)</u>		
Contact Person:	<u>Dr. David Brown, Chair of Physical Sciences Department</u>	Phone No.:	<u>619-421-6700 Ext. 5664</u>
E-mail address:	<u>dbrown@swc.cc.ca.us</u>		



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Agency Name:	<u>San Diego Surfrider Foundation</u>		
Role/Contribution to Project:	<u>Assist with volunteer recruitment and development of educational materials (as described in MOU)</u>		
Contact Person:	<u>Mr. Marco Gonzalez, Chairman</u>	Phone No.:	<u>619-758-7744</u>
E-mail address:	<u>marco@surfridersd.org</u>		
Agency Name:	<u>CalPIRG, UCSD Chapter</u>		
Role/Contribution to Project:	<u>Assist with volunteer recruitment and development of educational materials (as described in MOU)</u>		
Contact Person:	<u>Ms. Emily Deckman, CalPIRG campus programs organizer, UCSD Chapter</u>	Phone No.:	<u>619-297-5512 / 619-534-0844</u>
E-mail address:	<u>emily_deckman@hotmail.com</u>		
Agency Name:	<u>City of San Diego, Stormwater Pollution Prevention Program</u>		
Role/Contribution to Project:	<u>Providing advice on water quality monitoring and education</u>		
Contact Person:	<u>Ruth Kolb</u>	Phone No.:	<u>619-525-8636</u>
E-mail address:	<u>ack@sdcity.sannet.gov</u>		
Agency Name:	<u>Port of San Diego, Stormwater Pollution Prevention Program</u>		
Role/Contribution to Project:	<u>Providing advice on water quality monitoring and education</u>		
Contact Person:	<u>Richard Gilb</u>	Phone No.:	<u>619-686-6534</u>
E-mail address:	<u>rgilb@portofsandiego.org</u>		

If additional space is needed please attach a list.

**ATTACH A ONE PAGE MAP** (8 ½" x 11" is preferred) DEPICTING THE PROJECT AREA. (The map is not counted as part of the twelve [12]-page limit.)

IS THE PROPOSED PROJECT PART OF AN EXISTING WATERSHED PLAN OR   x   Ye        No

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EQUIVALENT DOCUMENT?

\_\_\_\_\_ s \_\_\_\_\_

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If yes, please identify the document, attach a copy of the title page, and briefly describe how the proposed project is consistent with the document.

A watershed management plan is currently being developed for Paleta Creek Watershed. The lead agency is the Port of San Diego. The applicant is participating in the plan development. A TMDL for Paleta Creek is expected to be implemented in 2003. The proposed project will collect baseline data for evaluating the effectiveness of management measures implemented as a result of the TMDL.

Pesticide and Metals TMDL's are being developed for Chollas Creek and the applicant's monitoring data will provide much needed effectiveness monitoring of TMDL management measures that have been implemented in the watershed. The educational component of the proposed project will raise awareness of the impacts of polluted storm water discharges on local water bodies and encourage adoption of behaviors that can help reduce these pollutants. Community outreach has been cited in the Chollas Creek TMDL's as critical to reducing pollutant loads.

10. DOES THE PROPOSED PROJECT ADDRESS ANY OF THE WATERBODIES LISTED AS CATEGORY I (IMPAIRED) PRIORITY WATERSHEDS IN SECTION 6 IN THE ARD?

☒ Yes ☐ No If yes, please list the involved waterbodies by reference number and watershed name.  
San Diego 18070304

11. WILL THE PROPOSED PROJECT ACHIEVE MEASURABLE WATER QUALITY IMPROVEMENTS?

☒ Yes ☐ No If yes, please describe the anticipated improvements and the methodologies that will be used to measure them.

It is anticipated this project will reduce NPS pollution emanating from inland watershed areas to Chollas and Paleta Creeks and then flowing to the coastal areas of San Diego County. Monitoring data will be summarized and analyzed by the RWQCB and combined with that agency's data to create a comprehensive view of the impact of urban runoff on local waterways and identify the extent of improvement overtime. Results will be published in an annual report available to all stakeholders. The methodology involves extensive community outreach and education through the internet, print and TV stations, and public forums.

The applicant's educational outreach concerning the pesticide Diazinon will be the first widespread community outreach program to explain not only the health risks and environmental effects from this chemical, but also the practical alternatives to its use. It is expected that this educational outreach will raise public awareness of the threats from continues use of Diazinon and will encourage changes in personal behavior that will result in long-term quantifiable improvements in water quality.

12. IS THIS PROPOSED PROJECT IDENTIFIED AS AN RWQCB/SWRCB TARGET PROJECT IN SECTION 5 OF THE ARD?

☒ Yes ☐ No If yes, note the project number. Project # R9-2

13. LIST ANY PREVIOUS 319(h) IMPLEMENTATION GRANTS AWARDED FOR WORK IN THIS WATERSHED.

The applicant received a 319h grant in 2000 to implement citizen monitoring at Paleta Creek.

14. LIST GRANTS FROM OTHER AGENCIES AND OTHER FUNDING SOURCES (SUCH AS CALFED, PROPOSITION 13, 205[j], PROPOSITION 204) THAT HAVE BEEN USED OR ARE CURRENTLY BEING USED TO SUPPORT WORK IN THIS WATERSHED.

Funds are available through 205[j] and Department of Pesticide Regulation (DPR) grants. DPR is currently funding a community survey of pesticide usage in Chollas by Dr. Cheryl Wilen (UCD) and has funded

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pesticide monitoring in Chollas in the past (city of San Diego).

15. SUMMARIZE ACTIONS THAT HAVE BEEN ACCOMPLISHED TO DATE TO ADDRESS THE PROBLEM(S) (e.g., PAST MONITORING, PLANNING, IMPLEMENTATION PHASES).

The applicant is experienced in mobilizing community residents and implementing a citizen-monitoring program. The applicant first implemented citizen monitoring in 1999, when teams of volunteers were trained to monitor sites at the Harbor Island West Basin of the San Diego Bay. At that time, the applicant also worked with the city of Encinitas to implement citizen monitoring in that area. In 2000, a 319h grant supported expansion of the citizen-monitoring program to the Paleta Creek Watershed. The current proposal to further expand the applicant's citizen monitoring program is in response to the RWQCB's request for assistance in collecting reliable effectiveness monitoring data at the targeted sites.

16. DESCRIBE HOW THE PROJECT WILL RESULT IN ONGOING OR WIDESPREAD IMPLEMENTATION THROUGHOUT THE PROJECT AREA, REGION, OR STATE.

The applicant is a member of the California CoastKeepers – a coalition of five environmental organizations in Southern California. Each coalition member has implemented or is planning to implement a citizen-monitoring program in their region based on the techniques and materials tested by the applicant. The result will be the widespread implementation of citizen monitoring programs along the Southern California coast, from Santa Barbara to San Diego. The data collected by this environmental coalition will become part of a geographic information system (GIS) that displays monitoring data describing a particular watershed and then uses relational analysis to relate the identified pollutants to probable upstream causative factors.

17. IF THERE IS AN NPDES PERMIT REQUIRED FOR THIS PROJECT AREA (CHECK WITH YOUR RWQCB), DESCRIBE THE RELATIONSHIP OF THE PROJECT TO THE PERMIT.

No permit is required for the project. The San Diego Municipal Stormwater Permit mandates water monitoring. However, that monitoring is extremely limited in scope and frequency. The proposed project implements citizen monitoring at additional sites and establishes a more frequent sampling schedule.

18. IDENTIFY THE NPS MANAGEMENT MEASURE(S) THAT THE PROPOSED PROJECT WILL IMPLEMENT AND DESCRIBE HOW YOU WILL BE ABLE TO TRACK OR ACCOUNT FOR THE IMPLEMENTATION OF THESE MEASURES.

The proposed project will implement *management of runoff from existing development* and allow for pesticide management in an urban area by providing the RWQCB with quantifiable data on the effectiveness of measures designed to reduce pesticide levels in the Chollas Creek. The applicant will account for progress through quarterly meetings with the RWQCB to discuss monitoring data and the potential need for further management measures.

The project will implement *education/outreach* by working with the RWQCB to identify opportunities to educate the public about the dangers of Diazinon. Potential education/outreach actions include distribution of pesticide informational materials at volunteer meetings and community events. Home supply stores such as Home Depot will be approached and asked to distribute the pesticide information. The applicant will also work with the RWQCB to develop and schedule live demonstrations of Integrated Pest management Strategies that eliminate the need for pesticides.

The project will implement *urban runoff management from existing development and education/outreach* by raising the public's awareness of urban runoff and encouraging the adoption of behaviors that reduce pollution and eliminate

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sources of runoff. The applicant will implement a wide range of educational/outreach strategies including monthly community meetings where results of monitoring will be distributed and explained, website updates, distribution of urban runoff information at community events, classroom presentations at local junior/senior high schools, and coverage in the local print and TV stations.

#### 19. WHAT CAPABILITY OR COMMITMENTS DOES THE APPLICANT HAVE TO ENSURE THAT THE PROJECT WILL BE COMPLETED?

**San Diego BayKeeper** is a community-based 501(c)(3) non-profit organization dedicated to protecting and restoring San Diego Bay, Mission Bay, the region's coastal waters and watersheds. BayKeeper launched its Citizen Water Monitoring program in December 1999, with volunteers having now adopted monitoring sites in Pacific Beach, Mission Bay, Cardiff and Cottonwood Creek, with partners including the Mesa College Chemistry Club, Grauer School in Encinitas, and Cottonwood Creek Conservancy. Most recently, BayKeeper launched an EPA-funded Seventh Street Channel/Paletta Creek Watershed citizen monitoring effort in December 2000. BayKeeper has developed RWQCB, SWRCB and EPA-approved QAP measures, and is currently educating and involving community residents in monthly stormwater sampling and analysis at designated sites in an effort to determine pollution sources. **Hiram Sarabia-Ramirez**, Staff Scientist and BayKeeper's project manager for the proposed project, is completing his master's degree in Marine Science from the USD, where he also completed his undergraduate work in Marine Science with an emphasis in Biology. Hiram has been working with scientists from the Centro de Investigacion Cientifica y Educacion Superior de Ensenada (CICESE) and the School for Field Studies Center for Coastal Studies (SFS-CCS) in Mexico to help establish the first biomonitoring program in Bahia Magdalena, Baja California Sur. Assisting Hiram will be Outreach Coordinator **Joe Carrey**, who earned his degree in geography with an emphasis on environmental policy and natural resource conservation at San Diego State University. Additionally, BayKeeper will rely on the expertise of Julie Barr, the Regional Citizen Monitoring Coordinator for the California CoastKeeper. Julie has over five years of experience implementing citizen-monitoring programs along the Southern California coastline. She has attended the EPA's Water Quality Standards Academy and has conducted train the trainer classes for the SWRCB's Clean Water Citizen Monitoring Team. **Dr. David Brown**, received his degree in chemistry from the university of Illinois and is currently chair of the Physical Sciences Department at Southwestern College. The department of chemistry possesses a variety of modern state-of-the-art analytical instrumentation, that includes multiple gas chromatographs, a gas chromatograph-mass spectrometer, and a high performance liquid chromatograph, in addition to other pieces of equipment. Dr Brown, has work with sophisticated analytical instruments and methods for nearly twenty years.

#### 20. DESCRIBE ANTICIPATED FUTURE WORK.

The applicant's citizen-monitoring program is designed to be an ongoing project. Future work includes implementation of citizen monitoring at additional sites further up into Paleta Creek and Chollas Creek Watersheds. Sampling parameters will be modified according to the data needs of the RWQCB and municipal stakeholders. Long term plans also include the development of a Public Service Announcement explaining NPS pollution that would air on local television/radio stations.

#### 21. INDICATE IF THIS PROJECT IS IMPLEMENTING A TMDL.

\_\_\_\_\_ Yes      X   No

If yes, briefly explain.

While the proposed project will not implement a TMDL, the monitoring data will provide information on the effectiveness of the measures implemented as a result of Metals and Pesticides TMDL's for Chollas Creek. The proposed project will also conduct educational outreach with the aim of reducing Diazinon use and preventing improper disposal of the pesticide – an approach outlined in the Pesticide TMDL.

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PLEASE LIST ANY SUGGESTIONS YOU HAVE TO IMPROVE NEXT YEAR'S RFP.

Make electronic submission an option.

*Submit this Questionnaire together with any attachments and supporting information to the SWRCB (see Section 1 of the ARD).*

*An original and 12 copies of completed applications must be submitted to the SWRCB no later than June 15, 2001.*

## **Chollas Creek Diazinon TMDL Proposed Alternative Monitoring Plan**

**Revised June 24, 2002**

NOTE: This approach is proposed by the City of San Diego to replace the specific requirements included in the Technical Report, Monitoring Plan Sections 11.30 – 11.36.

### Monitoring Plan Objective

To measure and document the reduction of diazinon concentrations in storm runoff in the watershed through time as diazinon is phased-out and BMPs are implemented. This monitoring plan was designed to meet the requirements of the TMDL that are to “assess the effectiveness of the TMDL, its implementation measures, and progress toward the attainment of applicable water quality standards in the Chollas Creek watershed.”

### Background

The concentrations of diazinon in Chollas Creek have been found to be ubiquitous throughout the creek during storms. No single reach or area of the creek was found to contribute more diazinon to the watershed than another reach. Source identification studies have found no identifiable source of diazinon in the watershed. This is consistent with the land use patterns in the watershed and the documented uses of diazinon.

Further, diazinon concentrations in the watershed have been found to vary from storm to storm.

### Sample Locations

Conduct sampling and analyses for water chemistry and toxicity on the Chollas Creek south fork at the former Department of Pesticide Regulation (DPR) sample station 2. Additionally, the existing Municipal Storm Water Program sample site SD-8 (1) at the downstream area of the Chollas Creek north fork will be utilized for water chemistry and toxicity. These two sample stations will be flow weighted composite samples and provide data on the majority of the watershed. These two sites will be tested for a total of 3 storm events, including the first two rain events of the season and the first rain event after February 1<sup>st</sup>. Other key components of the US Environmental Protection Agency's storm event criteria, Section 122.21(g)(7) will be followed, as summarized below:

- A rainfall of at least one-tenth (0.1) inch in the drainage area.
- No storm event in excess of one-tenth (0.1) inch on the drainage for at least 72 hours prior to the sampled storm event.
- A storm event within plus or minus 50% of the average median storm volume and duration for the region.

Water Chemistry Constituents:

Diazinon	Total Suspended Solids
Chlorpyrifos	Nitrite
Cadmium	Nitrate
Lead	TKN
Copper	Ammonia
Zinc	

Diazinon Test Method

EPA Method 8141A at a reporting limit of 0.05 ug/L, or ELISA with a 10% verification using EPA 8141A will be utilized.

Quality Assurance/Quality Control (QA/QC)

All field and laboratory handling must be conducted using “clean techniques.” The monitoring program shall develop and implement a QA/QC plan for field and laboratory operations. The QA/QC plan field operations shall cover the following, at a minimum:

- Quality assurance objectives;
- Sample container preparation, labeling and storage;
- Chain-of-custody tracking;
- Field setup;
- Sampler equipment check and setup;
- Sample collection;
- Use of field blanks to assess field contamination;
- Use of field duplicates samples;
- Transportation of the laboratory;
- Training of field personnel; and,
- Evaluation, and enhancement if needed o the QA/QC plan.

The QA/QC plan for the laboratory operations shall cover the following, at a minimum:

- Quality assurance objectives;
- Organization of laboratory personnel, their education, experience, and duties;
- Sample procedures;
- Sample custody;
- Calibration procedures and frequency;
- Analytical procedures;
- Data reduction, validation, and reporting;
- Internal quality control procedures;
- Performance and system audits;
- Preventive maintenance;
- Assessment of accuracy and precision;
- Corrective actions; and,
- Quality assurance report.



#### Ambient Water Toxicity

Samples will be collected at SD-8 (1) and DPR 2 for toxicity testing during the same three storm events as the water chemistry samples. This will include one 96-hour acute and one 7-day chronic toxicity bioassay using *Ceriodaphia dubia*. The method to be used is "Survival and Reproduction Test Method 1002.0, Short-term Methods for Estimating for Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA/600/4-91/002."

#### Sediment Sampling

Coordinate with MEC and BayKeeper to collect three sediment samples at locations in the north fork just below the convergence of the two tributaries, and the south fork just below the convergence of the two tributaries, as well as one downstream location in the south fork closer to the mouth of Chollas Creek where there is a natural sediment bottom see attached map. These samples will be analyzed using method EPA 8141A at a detection limit of 20 ug/kg to determine if Diazinon is accumulating in the sediments.

#### Reporting Requirements

There will be two reports associated with the implementation of this TMDL: Annual Effectiveness Report and Annual Monitoring Report.

#### Effectiveness Report

Pursuant to the MS4 Permit and under the authority of the Water Code Section 13267, the Regional Board will direct each municipal Copermittee in the Chollas Creek watershed to describe the implementation schedule and effectiveness of: 1) Legal Authority; 2) Diazinon Toxicity Control Plan; and, 3) Diazinon Public Outreach/Education Program.

#### Monitoring Report

Pursuant to the MS4 Permit and under the authority of the Water Code Section 13267, the Regional Board will direct each municipal Copermittee to implement and report on the findings of the Monitoring Plan as described in Section 11.30 above.

#### Annual Reports

Annual reports shall cover the same reporting or monitoring period as the MS4 Permit, August 21 – August 20 of each year. Reports shall be submitted to the Regional Board on the following January 31 of each year.



## Port of San Diego

And Lindbergh Field Air Terminal

(619) 686-6200 P.O. Box 120488; San Diego, California 92112-0488

[www.portofsandiego.org](http://www.portofsandiego.org)

Mr. John Robertus, Executive Director

San Diego Regional Water Quality Control  
Board 9174 Sky Park Court, Suite 100  
San Diego, CA 92123

Dear Mr. Robertus:

Subject: Late Agenda Packet of June 10, 2002 and Errata Sheet of June 12; 2002 for the Proposed Amendment to the Water Quality Control Plan for the San Diego Region (Basin Plan) to Incorporate a Total Maximum Daily Load (TMDL) for Diazinon in the Chollas Creek Watershed *Proposed Resolution No. R9-2002-0400*

We greatly appreciate the opportunity to review and comment on the revisions to the proposed Basin Plan Amendment made by the Regional Board staff just prior to the Regional Board hearing on June 12, 2002. The Chollas Creek Watershed stakeholders met on June 20, 2002 to discuss the Late Agenda/Errata Sheet and other program components. We commend the efforts of your staff, the environmental community, and the other jurisdictions within the Chollas Creek watershed, especially the City of San Diego, in working to resolve and/or clarify some of the issues surrounding this TMDL. We support the City of San Diego's comments and their proposed education/outreach and monitoring proposals, as agreed to and outlined in their letter addressed to you dated June 26, 2002. This support is based upon our participation at the meeting and review of their

If you have questions regarding this matter, please do not hesitate to contact me at 619-686-6534.

Sincerely,

Richard Gilb  
Senior Environmental  
Specialist

cc: Karen Henry, City of San Diego, 1970 B Street, San Diego, CA 92102  
David Merk, Port of San Diego  
DOGS #15773

June 23, 2002

Mr. John Minan  
Chairman  
San Diego Regional Water Quality Control Board  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123

**RE: Support of approval of Chollas Creek TMDL**

Dear Chairman Minan and Boardmembers:

On behalf of San Diego BayKeeper, I am writing to urge the San Diego Regional Water Quality Control Board to adopt the proposed Chollas Creek Diazinon TMDL. As you know, the TMDL requirement of the Clean Water Act has been in place since 1977, and the first TMDLs were to have been established by 1979. With an ever-increasing number of 303(d)-listed waterbodies in San Diego, it is imperative we begin the process of adopting and implementing required TMDLs to attain water quality objectives and to protect beneficial uses. This issue is particularly important in Chollas Creek, which is a direct tributary to the San Diego Bay. Chollas Creek has been listed as “impaired” due to chronic toxicity since 1996, and development of a TMDL for Diazinon (a leading cause of this toxicity) is long overdue for this waterbody.

San Diego BayKeeper has been actively involved in this TMDL process through workshops, written comments, and public testimony at Regional Board hearings. We have also worked closely with the City of San Diego, Regional Board staff and other interested stakeholders to address concerns about the TMDL. In particular, stakeholders had a very productive meeting on June 20, which provided an important venue for Regional Board staff to explain the rationale for changes made to the proposed TMDL prior to the June 12 hearing, and also allowed interested parties to exchange ideas on how to best implement the TMDL.

With these discussions having taken place, and more to follow, now is the time to move forward in adopting the Chollas Creek Diazinon TMDL. We believe that Regional Board staff has adequately responded to the concerns of local municipalities, and the proposed TMDL appropriately balances the protection of Chollas Creek and the concerns of the regulated community. The proposed TMDL provides an important framework for restoring Chollas Creek, while giving the City sufficient leeway to formulate its own action plans.

Of course, adoption of this TMDL – while necessary and legally required – is only the first step in restoring the health of Chollas Creek. BayKeeper looks forward to working with the Regional Board, the City of San Diego and other stakeholders to effectively implement the TMDL. We hope to work with our stakeholders to implement public awareness campaigns about the impacts of Diazinon in an effort to lessen its use prior to the EPA phase-out. We also look forward to working with stakeholders to develop a comprehensive monitoring program, including the integration of BayKeeper’s Citizen Water Monitoring effort along the

Creek, to fully evaluate the effectiveness of the TMDL in restoring water and sediment quality of the Creek in order to protect its beneficial uses.

Thank you for the opportunity to comment on the amendments to the proposed TMDL for Chollas Creek. Please do not hesitate to contact me should you have any questions or need more information.

Sincerely,

Bruce Reznik  
*Executive Director*